The Builder.

VOL. LXXXII.—No. 3686. MARCH 29, 1902.

ILLUSTRATIONS.

Competition Design for Blackburn Police Courts and Sessions House, &c. ..... By Messrs. Woodhouse & Willoughby.
The Library, Venice ..... Drawn by Mr. H. Raine.
Sketch of Staircase in Old Palace, Genoa ..... Drawn by Mr. H. Raine.
St. Peter's Church, Cricklewood ..... Mr. T. H. Watson, F.R.I.B.A., architect.
Churchyard Cross, Leasingham, near Sleaford ..... Mr. A. H. Skipworth, architect.

Blocks in Text.

Sketch Plan of St. Mark's, Venice ..... Page 308
St. Antonio, Padua, Sketch of Interior, looking East ..... „ 308
Sketch Plan of St. Antonio, Padua ..... „ 308
Buildings at Port Sunlight—
The Auditorium and Plan ..... „ 312
Open-Air Swimming Bath ..... „ 313
Illustrations to Student's Column ..... Page 325
Buildings at Port Sunlight (continued)—
New Schools ..... Page 314
Plan of Cottages ..... „ 315
Design for Blackburn Police Courts. Plan ..... „ 320
Church of St. Matthew, Genoa—A Corner in the Cloisters ..... „ 321
St. Peter's Church, Cricklewood. Plan ..... „ 322

CONTENTS.

St. Mark's and St. Antonio's 307
Notes 309
The Architectural Association 311
Books Received 318
The Architectural Association Spring Visits 319
Archæological Societies 319
Illustrations:—
Blackburn Police Courts: Competition Design 320
Sketches of Italian Work ..... „ 320
St. Peter's Church, Cricklewood 321
Churchyard Cross, Leasingham 321
Carpenters' Hall Lectures 322
The Surveyors' Institution 322
Competitions 323
Engineering Societies 323
Architects' Benevolent Society 323
The London County Council 323
Applications under the London Building Act, 1894 324
Correspondence:—
Building Contracts 324
Exeter Cathedral 324
The Student's Column.—Drainage—II 325
New Engineering Rooms, Battersea Polytechnic 326
Obituary 326
General Building News 326
Foreign 327
Miscellaneous 327
Capital and Labour 328
Legal:—
Action by a Builder and Contractor 328
Woodford Urban District Council *v.* Starr 328
Paving Case at Tooting 328
Endangering the Stability of Hogarth House, Chiswick 329
Ancient Light Dispute at Portsmouth 329
Recent Patents 329
Meetings 330
Some Recent Sales of Property 330
Prices Current of Materials 331
Tenders 333

St. Mark's and St. Antonio's.

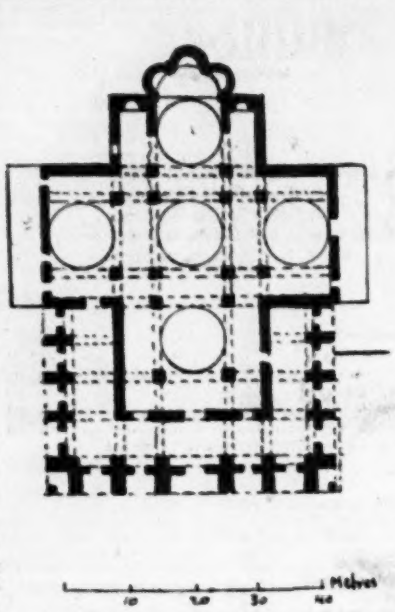
TWENTY years ago the greatest art critic of the nineteenth century was waging an apparently unsuccessful war with the tasteless officialdom of Young Italy, which in those days was perpetrating the greatest atrocities against the historic monuments of the Land of Art. Ruskin, G. E. Street, and others were to some extent successful at the time, and now those who have entered into their labours may, perhaps, enjoy a particular pleasure in seeing how changed are the times. Public opinion has completely gone over to the conservative side of the question; the "Restorers" are nowhere. This remarkable change can be studied especially well in St. Mark's. The atrocious "restorations" of thirty to twenty years ago are with us to-day, and the machine-made "Gothic art" of the period, with its crude colouring and lifeless drawing, covers scores of square metres of the wall space once occupied by ancient mosaics. Almost the whole of the mosaics of the narthex were "restored" at that time, and deplorable, indeed, are the results. Even the lapse of a quarter of a century has had no appreciable softening effect to change their hard-lined, misunderstood imitation of what may originally have existed in their places. They must go down, alas! to posterity as samples of the utter want of feeling for decorative art evinced by Italians in the latter half of the nineteenth century.

At the present time several works of reparation are going on in St. Mark's. The most important is the complete reinstatement of the mosaic, and the dome to which it is attached, which forms the covering to the south transept. This is being carried out with all the thoroughness so characteristic of Italians in works of the kind—and, indeed, in all building operations.* Other minor repairs to the mosaic are taking place in various parts of the church, and the same elaborate care is being manifested in every case. But how changed are the conditions under which this modern work is being executed from those in the days of Ruskin and Street! *Now* the object in view is to produce an *untouched appearance.*

The famous wavy floor of mosaic (its waviness thought by the credulous in such matters to have been intentionally designed to represent a "sea of life," but which in reality is due to bad foundations) is being patched here and there—but in a very different manner from the portion in the north-west aisle, restored in the taste of the period some twenty-five years ago. The present restorations are actually being made without levelling the pavement! Could anything more distinctly demonstrate the almost excessive conservatism which is now passing over the land. The Italians are, indeed, proving themselves masters in the craft of preserving ancient monuments, and although the conservation of the uneven levels in St. Mark's floor seems carrying the modern principles of reparation to an extreme, still the careful reproduction of the original with all its characteristic griminess is distinctly satisfactory, and an altogether more agreeable result than anything of the kind attempted in the old days.

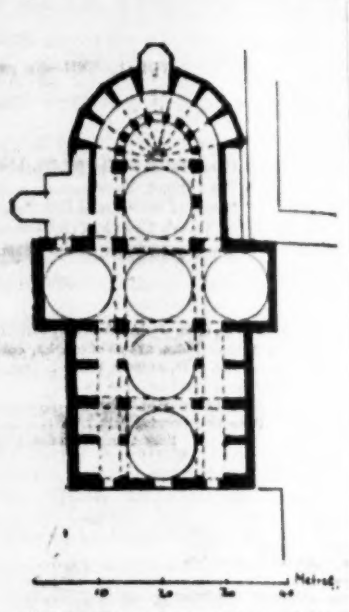
* And in nothing is this thoroughness so conspicuous as in the almost monumental scaffoldings which are made use of on such occasions as the present. In more northern countries a comparatively rough arrangement of poles and boarding tied up with ropes, and with a patchwork screen to preclude inquisitive investigation by the public, would be considered sufficient. Here in Venice, as at the still more imposing work going on in the Baptistry of Florence (which has already been several years in progress), the scaffolding has been elaborately constructed of carefully-fitting timbers, with a neat ceiling of boards dividing off the whole space occupied for the "restoration" from the church below, so that many visitors to the church may be quite unaware of so important a work being in progress, so neatly is the whole operation carried on without affecting the floor-space below. This self-supporting scaffold rests entirely on the great main cornice at the base of the dome; the space screened off within is lighted by the little windows which form a peculiar feature of Byzantine domical architecture, and in this case are within the curve of the dome

St. Mark's has an unique history. At one time it was the centre monument of a mighty Republic, the chief temple of a nation much in the sense, perhaps, of what the Parthenon represented to the Greeks. And as such the peculiar Byzantine style of the building seems to have been most religiously preserved throughout the ages in a way which was almost unnatural. For we must remember that in the days when the Serene Republic was at the zenith of its wealth and splendour, the new principles of art of at least the Renaissance, if not the pseudo-Classic schools, were generally accepted, and to men imbued with such ideas the mosaic interior of St. Mark's must have appeared but a "goffa" (to use Vasari's word) monument of their rude and barbarous forefathers. It is, indeed, surprising that St. Mark's did not share the fate of old St. Peter's or the other basilicas of Rome, for Venice was not a deserted capital like Ravenna, but a centre of the revival of the new studies in art and literature. How often Palladio, or Scamozzi, or their fellow workers in the great change of taste in the sixteenth century, must have contemplated with pleasurable anticipation the remodelling of the old building! As we know from their writings, they could but have looked upon such a building as quite beneath criticism from their standpoint of exclusive admiration for the Classic style. And certainly the Neo-Classicists may be allowed to have had some reason on their side. St. Mark's is not an example of architecture in the organic or true sense, any more than certain other great churches of Italy which are in what the Italians call the "fragmentary" style, such as Pisa, or Siena, built up of second-hand materials in a way which may be highly decorative and artistic, but scarcely to be deemed the highest type of architecture. Critically examined, St. Mark's consists of little more than a huge vaulted shell of brickwork, lined and decorated with precious marbles and mosaics; but not one of its innumerable marble columns was ordered at any quarry for the



Sketch Plan of St. Mark's, Venice.

St. Antonio, Padua. Sketch of Interior, looking East.



Sketch Plan of St. Antonio, Padua.

purpose; all were stolen from Levantine buildings and sent home as ballast in returning empty galleys of the period. Its glass mosaic decorations are partly remarkable on account of their being used nowhere else in Venice. Within the region of the lagunes there is nothing exactly resembling St. Mark's either in construction, scale, or mode of decoration, except St. Antonio at Padua, which seems a more perfected example of the same system of building. The more ancient Duomo of Torcello has little in common with it beyond the mere circumstance of a similar decoration in mosaic; in other respects this venerable church belongs to the series of Basilicas of Ravenna.

Probably the chief reason for the escape of St. Mark's from the vandalism of the pseudo-classic age, in addition to its evident incompatibility of plan and construction with the models of the later taste, was the completeness of its mosaic decorations. Few, if any, buildings of the size were so complete in a mediæval style when the great change of the fifteenth century took place. The mosaic pictures which were added by certain celebrated artists at that period were probably in the form of restorations or, rather, substitutions; such, for instance, as the figure of St. Mark—attributed to Titian—over the central west door, which was clearly a mere replacement of the much older mosaic of a totally different style. To alter the basilica at all would have involved the complete sweeping away of its chief and characteristic feature, the mosaic work and marble sheeting which covers every square foot of its brick walls. St. Mark's was thus one of the few mediæval buildings which benefited by a completeness, which, although preventing that picturesqueness associated with a mingling of styles, at the same time preserved it as a curiosity on account of its unique character. All through the later centuries the golden, glittering splendours of the mosaic doubtless excited the admiration of the Venetian populace, and the fact that great artists like Titian associated their names with such a style of art would also naturally tend to check any suggestions which the architects of the period would make for converting the basilica into one of the coldly correct classical reproductions so often attempted in those days. But notwithstanding the influences surrounding and threatening its very existence, St. Mark's escaped and survived to our modern days for the admiration of a generation more eclectic in taste.

As has been remarked, almost the only building which at all resembles St. Mark's is the neighbouring church of St. Antonio in Padua. In this latter the same massive piers support the same kind of domes, and the general appearance of the building suggests that a similar use of mosaic was originally intended, although not an inch of such a decoration was ever executed. St. Antonio was evidently built, or at least finished, long after the change of taste took place; when mosaic was no longer the medium of an artistic expression to which the usual developments of an architectural style such as the Byzantine seem rather sacrificed. Both St. Mark's and St. Antonio's belong to a period of transition from the ancient basilica of the Ravenna type to the church of the short-lived "Gothic" style of Italy. In St. Antonio the beginning of the pointed arch mode of construction, the striving for lofty proportions, and, above all, the introduction of the central European type of east end, with its ambulatory and chêvet of encircling chapels, all belong to the later style; whilst at the same time a very strong resemblance (especially in plan) to the basilica of Venice suggests the possibilities of a still finer example, as originally designed, of a mosaic-lined interior of grand proportions which was never carried into effect. In St. Antonio the traditional colonnades of the ancient basilica, which survive to some extent in St. Mark's, are eliminated; the vaulted, domical interior takes the place of the older long-drawn aisles with lean-to roofs. But unfortunately by the time this grand building was completed the mosaic art had been practically abandoned for the more exact fresco painting, with all its astonishing adaptability to decorative work. The huge brick shell, instead of being covered internally with glass mosaic, as was probably, if not certainly, the intention of its original designer, was treated in the style of a later period and presented a sufficiently splendid effect until its frescoes were covered up with the whitewash of the sixteenth century.

At the end of the eleventh century St. Mark's seems to have been remodelled as we see it at the present day. St. Antonio was commenced—that is to say, designed—almost immediately after the death of its tutelary patron in 1231, but according to some accounts it was not finished for decoration until the middle of the fifteenth century. Roughly speaking, rather more than a century intervened between the dates of the two greatest monuments of Venetian architecture, and it is curious to notice what an advance in methods of construction and in general design had taken place in the interval. The church of Padua is a magnificent conception from every point of view, whilst on the other hand the heavy proportions and want of a distinctly architectural character and style in St. Mark's is scarcely redeemed by the richness of its mosaic. The plan of St. Antonio is clearly a lineal descendant from that of St. Mark's, but the suppression of the Byzantine narthex enclosing the west end, and the introduction of the pointed arch as a dominating feature in place of the older style of construction, create an altogether different effect. Indeed, to the ordinary beholder there is not very much resemblance between the two churches at first sight, but, perhaps, if we allow ourselves to imagine the interior of St. Antonio a blaze of mosaic colour and gilding, as it was doubtless intended to be by its original designer, the resemblance between the two becomes clearer, and the imposing character of such a style of architecture and decoration is sufficiently evident. It is to be regretted St. Antonio was never completed as a consummation of the Italo-Byzantine style—a style of particular originality and magnificence.

As has been said, the interior of St. Mark's, owing to its completeness at an early date, escaped to a great extent the alterations which were customary in churches during later ages. But St. Antonio, on the contrary, has been one of those unfortunate buildings fated to perpetual remodelling and transformation. The magnificent works of art with which it is crowded are in themselves perfect, but they were designed by men who could ruthlessly whitewash the frescoes of the Middle Ages. The interior appears to have been entirely painted—the domes, vaultings, walls, pilasters—during

the fourteenth or fifteenth centuries. These paintings were whitewashed, probably in the sixteenth century, when the numerous additions of that period were made to the interior. At a still later date the basilica suffered from a fire which would necessitate an additional coat or two. Not only the mural decorations of the main body of the church, with its domes, &c., were covered up, but the side chapels of individual character, which always give to an Italian church such additional interest, were reduced to the same white uniformity.

At the present day a scheme is on foot to restore the interior to its pristine splendour; but not, of course, with the idea of introducing the mosaic style which the building was so evidently designed for. The frescoes of the westernmost dome have been laid bare from the whitewash in a somewhat deplorable condition, but they are sufficiently preserved to allow of a perfect reproduction of the original painting. Large designs have been prepared for the purpose by a firm of decorative artists, and these are exhibited in the church with a view of attracting funds for the work. To criticise these productions is a little difficult, because even the large-scale drawings of so vast a building (about 100 ft. in height to the centres of the domes) are necessarily inadequate to give a true impression of what is intended. It is to be hoped that these designs merely represent an approximation to the eventual carrying out of the work, and that the frescoes will be repainted on the original lines as far as may be. These drawings have the unfortunate character of most modern decorative work, they are too evidently the result of study and copyism, made in an office or studio by a designer whose only occupation is that of making such small drawings of work to be carried out in execution by another hand. One of the eastern chapels is being at present decorated on a separate scheme as the national offering of a Polish committee.

Whatever the present scheme for restoring the ancient frescoed interior of St. Antonio may be, there is no doubt the newly-instituted government department for the preservation of the antiquities of Italy will not permit anything but a most accurate copy of the remains still in existence beneath the whitewash.

NOTES.

What is a New Street?

AT a time when so much is being done in the metropolis in the way of altering its streets and thoroughfares, the case of "The Property Exchange, No. 1, Ltd., *v.* Mayor, &c., of Wandsworth" will be read with interest. The question there raised was whether where an existing street is widened all or only some of the owners of property fronting on the street can be made liable to contribute to the expenses of paving the portion added, or whether it forms part of the old street. The street in question was situated at Tooting, and since 1855 had been a thoroughfare repaired by the Wandsworth Board of Works, 16 ft. wide, and with a row of houses on the south side which had been erected some seventy-five years ago. In 1898 the roadway was widened to 40 ft., and certain buildings were erected on the north side; and in 1899 the Wandsworth Board of Works paved the street and endeavoured to charge the expenses on the owners of property abutting thereon. The owner of the houses on the south side resisted this on the ground that the street was an old street, and a summons against him was dismissed by the magistrates. This exact point was decided in the case of White *v.* Fulham Vestry, so their decision was unquestionably right. The Local Authority then apportioned the expenses of paving the added portion of the street on the property to the north of it, and the Court of Appeal affirming, the Divisional Court have held this portion to be a new street within the meaning of Section 105 of the Metropolitan Management Act, 1855, chargable on the owners of property fronting thereon. The decision is not free from difficulty owing to the wording of the section, which makes the "owners of the houses forming such street" liable to pay these expenses, on which it was contended all the owners must be charged. The *ratio decidendi* is, however, as follows:—Section 77 of the Metropolis Management Amendment Act, 1862, which made the owners of land not built upon also liable to contribute, uses the words "the owners of land bounding or abutting on such street," and "street" in the principal Act (Section 250) is made to include any "highway, road, lane, and a part of any such highway, &c.," and the Court held the combined effect of those sections to be the same as Section 150 of the Public Health Act, 1875, under which section on similar facts it has been held (in "Richards *v.* Kessick") that the added strip formed a "new street" for the expenses of paving which the frontagers on such strip were liable.

Urban District Authorities.

THE powers of Urban District Authorities under Section 25 of the Public Health Act, 1875, received consideration in the recent case of Woodford Urban District Council *v.* Stark. The respondent being about to erect two houses gave the District Council due notice, and submitted plans. The District Council, on the report of their surveyor, disapproved the plans on the ground that a combined drain was shown for the two houses, and laid two informations against the respondent under Section 25 of the Public Health Act, 1875. The justices dismissed those informations on the ground that they had no jurisdiction, because under this section, the surveyor had only power to consider the size, materials, level, and fall of such a drain. The Divisional Court remitted the case to the justices, intimating the section gave power to order a separate drain for each house. Before the Divisional Court the argument seems to have been used that the two houses were one building, and consequently one drain only was necessary. This argument is based on the definition of drain contained in Section 4 of the Act which defines it as any "drain of and used for the drainage of one building or only premises within the same curtilage," and on certain cases which have turned on the question whether the system of drainage was a "drain" or a "sewer," with a view to determining whether the private individual or the Local Authority was responsible for its repair, and in this connexion semi-detached houses were held one building, "Hadley *v.* Webb," (1901, 2 ch., 126). Under Section 25 the word "house" is used, and what the Urban Authority has to consider is the "effectual drainage of such house"; and in the case under consideration the Court intimated that the section contemplated at least one drain for each house. It must be borne in mind the Urban Authority, however, can only regard the effectual drainage of that particular house, not its effectual drainage in connexion with any particular system of drainage in use in the district, "Matthews *v.* Strachan" (1901, 2 K.B., 547).

Old Age Pensions.

THE debate last week in the House of Commons, which resulted in the second reading of Mr. Raymond Greene's Bill to enable Local Authorities to grant old age pensions to deserving paupers, was little better than a waste of legislative time. The Secretary of the Local Government Board, of course, said that the Treasury could not possibly find the necessary millions which this Bill would require if it became law. The House, nevertheless, voted for the second reading. Members will thus be able to say to their constituents that they have done their best to obtain old age pensions for deserving poor, though all those who passed through the division lobbies knew perfectly well that this measure was not in the least likely to become law. That Local Authorities in rural districts might do something to re-establish village almshouses for aged persons of good character is undoubted; but this they have now the power to do. Architecturally, there are no more interesting features in the country districts than the old almshouses—such, for example, as those at Abingdon. No doubt the system requires very careful watching, but that it may be used in the future beneficially in many cases there can be no doubt.

Two London Gas Bills.

THE Bills promoted by the Commercial and the South Metropolitan Gas Companies respectively have both been shorn of important clauses by the Select Committee appointed to consider them, but the proposal that the standard illuminating power of the gas supplied by the Commercial Co. shall be reduced from sixteen to fifteen candles, and eventually to fourteen candles, with a compensating reduction in the standard price, was not opposed. We hope to see the standard price of the gas supplied by the Gaslight and Coke Co. reduced next year on similar terms. In view of the fact that gas is now mainly used, not for producing luminous flames, but for heating purposes and for incandescent lighting, it is not surprising that the reduction in the illuminating power was not opposed, but it is somewhat remarkable that no effort has been made by the representatives of the consumers to introduce a heating power standard. The heating value of gas can be determined readily and accurately, and with the reduction in illuminating power there is great danger of a reduction in the calorific value of the gas, and a consequent decrease in its value for heating, cooking, and power purposes. The principal portion of the South Metropolitan Bill was that proposing the abolition of the office of the Gas Referees, three eminent scientists appointed by the Board of Trade to prescribe the methods to be used for testing the metropolitan gas supply. It was also

sought by this Bill to revert to the primitive testing methods set forth in the Gas Works Clauses Act, 1871. It is gratifying to be able to record that the Select Committee struck out this portion of the Bill without hesitation. To permit less efficiently purified gas to be supplied would be a retrograde step, for purification is not unduly costly; and although great stress was laid by the promoters of the Bill upon the worry and premature senility caused by the stringency of the tests, we do not doubt that the supply of competent gas engineers will suffice to meet the demand.

L.C.C. Subways.

THE by-laws concerning the use of their subways which were approved at the recent meeting of the London County Council will be of interest to many of our readers. We note that the electric light companies are required to give full particulars of the insulation of their cables and the highest electro-motive force for which they are to be used. Full powers for entering the subways in cases of emergency are given, and the keys of the subway entrances will be kept at specified places. The County Council very properly make a rule that no person shall take into a subway any "candle, lamp, or light" other than a safety lamp of approved pattern. They also strictly forbid smoking or even taking a match down the subway except with the consent of the inspecting officer. Not only has the danger from leakage from the gas mains to be guarded against now-a-days, but also the danger from explosive gases distilled from the bitumen which is so largely used for insulating electric mains. The annual charges for the use of the various subways seem to us to be scarcely equitable. A gas or water main above 36 in. in diameter can be laid along the whole length of the Victoria-embankment subway for an annual charge of 50*l.*, whilst for an electric light main contained in a pipe only one-third of the diameter of the gas-pipe, the charge is 84*l.* Again, why should the charge for a cable 18 in. in diameter be only three times as great as for a cable 3 in. in diameter, although it is thirty-six times as heavy and takes up thirty-six times as much room?

Masonry v. Steel.

YOUNG people generally think themselves wiser than their elders. Sometimes they are right, more generally wrong. Young nations are very much like other children, and are equally ready to offer advice in quarters where it is not required. As the necessities of young people are not entirely those of older people, so the necessities of young nations are not those of older nations. This view of life has been imperfectly realised in the United States, but it is gradually becoming recognised. One indication of this change is afforded by the growing popularity of masonry bridges among American railroad engineers. In our own country, where things in general are of thoroughly settled character, the inclination of the engineer is towards solid and lasting work. Consequently, masonry bridges have never gone entirely out of fashion, and metal structures of the same class have always been noted for massiveness and stability, so that the railway viaducts of a past generation are still quite suitable for the greatly increased moving loads of the present day. On the other hand, American practice has always had a tendency towards the lightest possible construction consistent with safety, based upon the requirements of the moment. It is now being discovered across the Atlantic that closely-designed metal structures suffer considerably from the great weight and speed of modern traffic, and that if bridges of the present are to be the bridges of the future, the margin of strength must provide for future development as well as for present safety. The masonry arch can be economically built of such proportions as to comply with these essentials, and there are already several examples demonstrating appreciation of the fact in America. One of these is the Rockville bridge, recently completed by the Pennsylvania Railway Co, about 4,000 ft. in length, and consisting of forty-eight masonry arches of 70 ft. span. A steel bridge on the same system is shortly to be replaced by a masonry viaduct of twenty-one arches varying from 51 ft. to 72 ft. span; and a new masonry bridge of eighteen 60-ft. spans is to be built by the company across the Delaware River at Trenton. It is certainly unwise to overlook the possibilities of steel construction, but the other extreme is equally inadvisable.

Building Tests in Paris.

SOME interesting data have been furnished during the demolition of the temporary buildings erected for the Paris Exhibition. The tests applied to the San Marino Pavilion appear to have been of a particularly stringent character, including the agency of fire, and afterwards of physical force. The structure consisted largely of armoured concrete, of which details have appeared in our columns at various times. With the object of subjecting the whole of the pavilion to the influence of the ordeal by fire, a portion of the concrete flooring between the ground and first floors was removed, and large bonfires of woodwork from other demolished buildings were then lighted on the ground floor, so that every part of the structure should be exposed to the action of the flames. That the test was of severe character is proved by the fact that glass in the centre lantern was melted, and that Portland cement on the treads of the staircase had the appearance of being partially fused. However, no serious injury was caused to the essential parts of the structure, for, although plastering suffered, the concrete construction remained intact. Attacks were next made with a battering-ram against one of the turrets, after the supports had been partly removed. The weapon employed weighed about two-thirds of a ton, and, being suspended freely by ropes, it was operated by eight men. After much of the pavilion had been knockod away, the corbel formed by half the building, overhanging some 23 ft., and weighing about 50 tons, was still in position with no visible support beyond a slender column of cored brickwork. These tests seem to justify the confidence in armoured concrete construction entertained by Continental architects and engineers.

Lord Rayleigh's Lectures.

LORD RAYLEIGH concluded his course of lectures on "Some Electrical Developments" last Saturday. He began by showing the effect of bringing an electrified point near a jet of escaping steam, the colour of the jet becoming darker and reminding one of a thunder cloud. The electrification of the jet causes the minute globules of water to coalesce into larger drops, in the same way that atmospheric electricity causes the heavy rain during a thunderstorm. The explanation of the phenomenon was by no means as simple as it was generally supposed to be. The lecturer showed that the same effect could be produced by a current of air that had passed over sulphuric acid, or by merely bringing a flame near the jet. He also showed that a jet of water which contains a trace of milk breaks up into drops exactly in the same way as an electrified jet of pure water. By means of a Braun vacuum tube it was shown how a beam of Kathode rays could be deflected by an ordinary magnet, and by placing this beam in the centre of a rotating magnetic field, it was seen that it traced out a circle of light on a fluorescent screen. Lord Rayleigh stated that good work in studying magnetic fields by this method had been done in Germany. A beam of Kathode rays, unlike a galvanometer needle, had no inertia, and hence no complicated corrections for this effect had to be introduced into the measurements. The question of what Röntgen rays are is still unsolved. Unlike light or Hertzian waves, they cannot be refracted or polarised; it is even doubtful whether they can be reflected. We would expect that they could be diffracted, but careful experiments by Dutch physicists had proved that no trace of this effect was visible, and hence, if the Kathode rays be caused by an undulatory motion of the ether the wave length must be a hundred times shorter than the wave length of violet light. The old controversy which raged in Newton's time as to whether the corpuscular theory or the undulatory theory of light were true has been revived concerning these rays. It has been suggested that the Kathode rays and the Becquerel rays are simply streams of corpuscles. Lord Rayleigh would point out, however, that there were several effects common to both Röntgen rays and ultra violet light namely, that they both discharged bodies, electrified negatively and affected photographic plates and fluorescent screens. Lord Rayleigh concluded by showing a striking experiment which illustrated how rapidly ozone destroyed indiarubber. It seems to us that this experiment would explain the rapid deterioration of the rubber which sometimes takes place in high tension electric cables, and has generally been attributed to defects in the rubber itself.

Electric Railways.

THE paper on "Electric Railways" by Messrs. Swinburne and Cooper read to the Institution of Electrical Engineers last week is a timely and valuable one. They state the problems that have to be solved very clearly, and give approximate solutions, which, whether right or wrong, are at least perfectly definite, and their assumptions are all stated. Instead of attacking the problems by giving a *résumé* of recent engineering practice, and trying to sift out those solutions which have proved unsatisfactory, they boldly offer original solutions arrived at on scientific principles. They divide the problems of electric railways into three classes, namely, "tubes," suburban railways, and main

lines. As tube railways, as at present designed, are not meant to be linked on to other lines, they offer a very special problem, in which the main difficulty is to get the train to start sufficiently rapidly. On the Central London Railway, although the trains stop only fifteen seconds at each station, yet this amounts to 10 per cent. of the total time. The authors state that if the cars were arranged as on the Metropolitan of Paris, so that a door at one end is used for entering the car and one at the other end for leaving, then ten seconds would be long enough. In urban lines rapid acceleration and powerful braking are of paramount importance. The authors consider that the main line problem is not yet ready for serious treatment, but they point out many of the advantages that would accrue from electrical working. In this case the power can be cut off without communicating with the driver, and so he will have no need of signals. In some of the systems sketched by the authors it would be easy to signal the exact position of the train to the station. "Models will then move along plans of the railway, so that the trains are controlled entirely from on shore, so to speak." The responsibility of the driver will be reduced to a minimum; all that he has to do being to keep a look out for anything on the line and to start and stop at stations. It will be as easy to run in fogs as in the dark, and they will no longer dislocate the traffic as at present. In the subsequent discussion, Mr. Dow, a well-known American electrician, criticised the constant current system the authors proposed. He said that you could not foretell the behaviour of large series motors merely by knowing how small ones worked, and that he had found by practical experience that series motors on constant current circuits "bucked" severely, with the result that all the passengers got collected at one end of the car. He also gave a humorous description of the "hustling" tactics adopted by the American conductor in order to accelerate the service.

Village Industries. INVITATIONS have been issued for a conference to be held at Warwick Castle at the beginning of May on the subject of Village Industries. Although these may be regarded as largely agricultural, it is obvious that there are a number which are of a purely mechanical nature, and which deserve just as much consideration as those connected with farming or gardening. Among the various means by which the depopulation of the rural districts might be a little stayed is the improvement of the position of various industries connected with woodwork sanitation and leather work. If a dweller in a country district can get as good work at his own door as from a distant town, he will certainly do so, and the well-to-do artisan in an English village is, in many respects, in a better position than his brother in a town. The chief means to produce this result is an efficient system of technical education prolonged and systematic, with some connexion between education and practice, such as the giving advantages, educationally, to apprentices in the various trades and the employment by Local Authorities, County and District Councils of those who have been trained in the Local Educational Training Schools.

Changes in Hanover-square. DURING the past few years Hanover-square, first built nearly two hundred years ago, has suffered considerable alteration, involving the loss of much of its distinctive and uncommon architectural character. The houses, beautifully built of red brick, closely jointed, in the south-west corner, and having elevations with high narrow windows (like that of a house in Henrietta-street, Cavendish-square) after a very infrequent design, formed a highly-pleasing feature of the prospect as one looked towards the widened opening of George-street. But at that spot is now being erected a block of flats and chambers, designed by Messrs. C. Bell, Withers, & Meredith, which quite mar the old-world dignity and repose of that quarter. On the east side of the square, at the corner of Hanover-street, the old concert and ball rooms built for Sir John Gallini have been replaced with a large block of buildings from plans and designs by Mr. J. Sawyer. The "Rooms," latterly occupied by the St. George's Club, had been erected on the site (purchased for 5,000*l.*) of Lord Dillon's town house for Sir John Gallini, and were opened in 1775 by Bach and Abel for concerts, routs, and masquerades. It is said that Salaman there directed the former six of the symphonies which Haydn composed in London, 1791-2, with the remaining six, in the following year, for Salaman's concerts. Shortly afterwards the "Concerts of Ancient Music" were removed from the King's Theatre, Haymarket, to the Hanover-square rooms, which were subsequently used during a long period for the annual performances of the "Messiah" on behalf of the Royal Society of Musicians. The Philharmonic concerts were transferred thither, after the destruction by fire, in 1830, of the old Argyll Rooms in Regent-street, built by Nash for Joseph Welch, and there was held the first series of concerts given by the Henry Leslie Choir. The ceiling of the great room, 90 ft. by 35 ft., was painted by Cipriani. Since the Arts Club quitted their old premises for Dover-street, the front of their former home in the square has been altered; and close by, on the north side, is a new block of flats and shops, with a return-frontage in Harewood-place, designed by Mr. P. Hoffmann, which ill accords with the two adjacent fronts of Harewood House with pilasters and a rounded bay coated with Liardet cement, as added by Robert and James Adam.

Tower Crecy, Campden-hill. THIS house, situated in Aubrey-road, and an adjoining residence in Campden Hill-square, will shortly be offered for sale at the Mart. The property, covering, with the garden ground, nearly 15,000 ft. superficial, occupies a lofty position upon the summit of the hill, and the turret of Tower Crecy forms a conspicuous feature of the landscape as it rises above the trees around. It was built for his own occupation by Thomas Page, the civil engineer, who died in 1877; he adopted a quasi-Gothic style in honour, it is said, of the Black Prince, and as leaseholder was required to hoist a flag upon each anniversary of the battle of Crecy.

The Church of St. Just, Roseland. THERE is no more picturesque Cornish Church than that of St. Just, in Roseland, on the edge of one of the wooded creeks which break into the land of Falmouth Harbour. The overhanging banks of the old graveyard, now bright with daffodils and primroses, and hartstongue fern, add to its charm. It is, therefore, with some regret that we find it is proposed to restore it, though the work is intended to be one of preservation and not of reconstruction. The edifice has been examined by Mr. Kinnaird Jenkins, the diocesan surveyor. There are certainly indications of structural defects, but it is very much to be hoped that nothing more will be done than is actually necessary. It is quite a mistake to take out the stonework of windows in which there is no valuable glass until they are at the very last stage of decay. Every church which possesses old architectural features should have these carefully preserved to scale, on proper plans, and then, when in the last resort a window has to be replaced, there is clear evidence of its character. There is even yet a too great tendency to anticipate the work of time in our English churches, and to put in new work which is not needed for the purpose of structural preservation. To fill St. Just with new stone work would be to take away most of its charm. The name itself has a great suggestion of the picturesque, and of the luxuriant region in which the church is placed. It may be disagreeable to destroy pleasing allusions, but it is interesting to point out that "Roseland" has not the meaning which one would popularly suppose, but should be strictly "Rosland," which means moor or peat land.

The Shape of Swimming Baths. AMONG the illustrations we have given to Mr. Lever's interesting paper at the Architectural Association on the Port Sunlight buildings, is the plan of the open-air swimming-bath, which we have given because it is a suggestion worth attention in regard to the planning of swimming-baths. It will be seen (p. 313) that it is oval in shape. Swimming-baths are almost invariably made in a long rectangular form. Why should this be the accepted form? The result is that a practised swimmer, who could go many lengths of the bath without difficulty, has to stop and turn at each end. With an oval bath he could swim round and round without stopping. In baths where anything like an architectural treatment could be afforded, the oval plan would give scope also for a fine architectural effect, in a bath on a large scale.

THE ARCHITECTURAL ASSOCIATION.

THE usual fortnightly meeting of the Architectural Association was held on Friday last week in the Meeting-room of the Royal Institute of British Architects, No. 9, Conduit-street, Regent-street, W., Mr. W. H. Seth-Smith, President, in the chair.

The minutes and nominations having been read, Messrs. A. W. Heath, R. D. Wells, and C. H. Wheeler were elected members.

On the motion of Mr. H. P. G. Maule, hon. secretary, a vote of thanks was accorded to Mr. F. E. Williams and to Messrs. Derry & Toms in connexion with the visit on the 8th inst. to the new premises in Kensington High-street.

New Premises Fund.

The Chairman said he had to announce the following additional donations to the New Premises Fund viz., Messrs. C. E. Bateman, 5*l.* 5*s.*; Noel F. Barwell, 4*l.* 4*s.*; W. J. N. Millard, 2*l.* 2*s.*; and D. F. Fyfe, 1*l.* 1*s.* The Chairman said he had pleasure in reading the following letter, received from Mr. Bateman:—"I have been much interested in following the subscription list for the new premises fund fol-

owing upon your appeal for small donations which, I think, you put in exactly the right way to encourage the younger members to give something from time to time, as they can afford it. I am sending you a guinea towards one of five guineas which I propose to spread over five years, and hope this course will be followed by others. Men do not care sometimes to give only a small amount when a larger sum is required, but we all know from experience that a big bill of extras may be made up of a number of small items. I hope you will soon have sufficient funds to justify a start being made. I was through the Day School recently, and should like to congratulate you upon the excellent work being done by the masters and students."

The Chairman also announced that a meeting of the Discussion Section would be held on the 18th prox., when Mr. A. Needham Wilson will read a paper entitled "A Tour through the South of France."

Mr. R. S. Balfour, hon. secretary, announced the following donations to the library, and a vote of thanks was passed to the donors:—"Summer Holidays Among the Glories of France," presented by the author, Mr. T. Francis Bumpus. "Monastic Seals of the Thirteenth Century," by Gale Pedrick, presented by Mr. Noel F. Barwell. "Proceedings of the Society of Antiquaries, 1900 to 1901," presented by the Society of Antiquaries.

Dwellings Erected at Port Sunlight and Thornton Hough.

Mr. W. H. Lever then read the following paper:—

When your Association did me the honour to invite me to read a paper on "The Villages of Port Sunlight and Thornton Hough," it appeared to me to be necessary before accepting your invitation that it should be clearly understood to be out of the range of my ability to treat the subject from the standpoint of the architect.

You were good enough to repeat your invitation after receiving this explanation, and now, if you give me your kind indulgence, I will endeavour, in as few words as possible, to render an account of the building, planning, and laying out of Port Sunlight, and of the partial re-building of the village of Thornton Hough.

Taking Port Sunlight first, its history is soon told. Our works were started in Warrington in January, 1886, and in the autumn of 1887, the site being found to be too small for our rapidly growing business, it was decided that the best course would be to remove entirely to some rural district where ample acreage could be secured adjacent to both rail and water transport, with reasonable facilities for obtaining the necessary supply of labour. To provide this a decision had first to be made as to which part of England was best suited to the particular manufacture it was intended to carry on. Rightly or wrongly, the River Mersey was selected as the best for our business.

Obtaining maps of the district, I next proceeded to examine, partly by walking, partly by taking train, the most likely localities, and finally settled on land on the Bromborough Pool, situated about five miles from the centre of Birkenhead, and about seven miles across the river from Liverpool Town Hall. The intention was to build works and village. The village was part of the scheme from its very inception. Our first purchases were about fifty-six acres of land, of which twenty-four were intended for the business and works and thirty-two for the village. From time to time the area was added to by purchase as opportunity offered, until to-day the area is 230 acres, of which about ninety acres are devoted to the business and 140 to the village.

The ninety acres devoted to the business are of no interest to us to-night, and therefore we will dismiss them and the buildings erected thereon from our thoughts, and confine our attention to the 140 acres devoted to the village.

The ravines or gutters, up which, to a greater or less extent, in former days the tide used to flow, we have filled up, and levelled the land at the bottom of the ravines, but only so as to raise it above high-water mark. This leaves the ravines available for use as parks and recreation grounds, and so treated they will become the feature of the village. At the junction with Bromborough Pool a dam is in course of construction, which will cut these parks off from the incoming tides, and also serve to carry a road at that point across the pool.

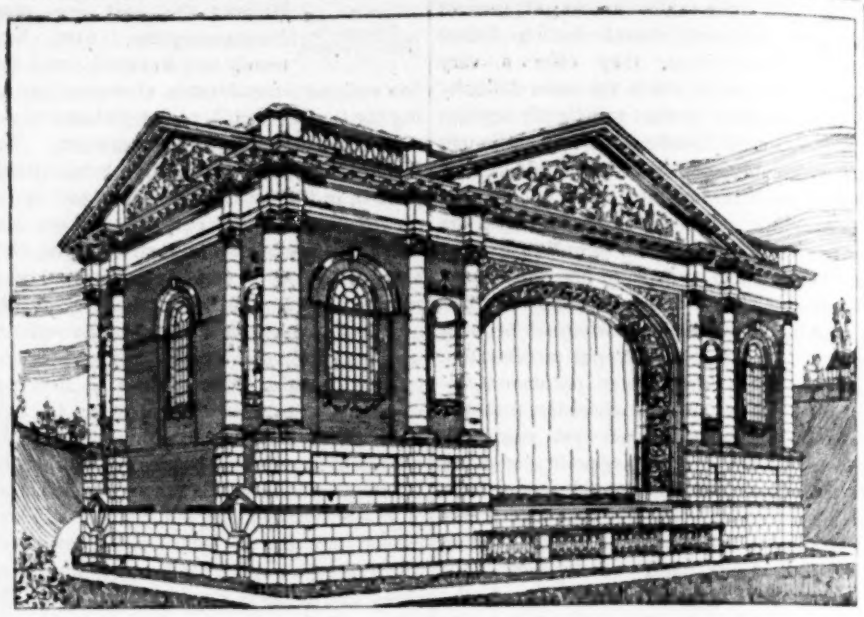


Fig 1.—The Auditorium. *Messrs. Grayson & Ould, Architects.*

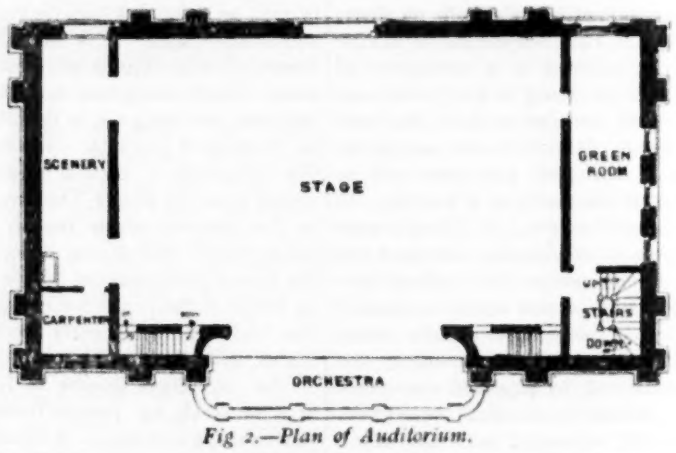


Fig 2.—Plan of Auditorium.

The roads have been so planned that whilst making direct and shortest ways to important points, such as the railway station, the ferry, the tramway terminus, and to the office and works, they shall still form wherever possible curves and sweeps following the lines of the ravines.

Another object aimed at in the laying out of the village has been that none of the houses should have their backs to the railway line. It is remarkable how little this is thought of in laying out building land adjoining railways, and yet I know of no feature of such an estate that ought to have more careful attention, both on the grounds of the financial success of such undertakings, and also in the interests of the public using the railways. The general width of the roads has been fixed at 40 ft.—say 8 yards roadway and 8 ft. each for footpaths, but our widest road is 12 yards for roadway and 12 ft. for footpaths. I don't know whether it is a recognised rule to make the footpaths as many feet wide as the roadways are yards in width, but I have always found this to give a most excellent proportion. In order to realise the intention of leaving the ravines as parks and recreation grounds, and at the same time not diverge from the directness of the roads to adjacent local centres, the ravines had to be spanned at several points, and with two exceptions where bridges have been built, this has been done by means of banks of earth. In building these bridges the intention has been to add distinct objects of interest to the village.

The first of the two bridges is the one near the schools, spanning the park at that point. It was designed by Messrs. Douglas and Fordham, of Chester, and forms one of the most charming features of the village. The second bridge carries Bolton-road across the ravine to its continuation to New Chester-road. This bridge was built from the designs of Messrs. William and Segar Owen, of Warrington, and it would be difficult to imagine anything more solid and strong, yet light and graceful. It is an ideal structure for the purpose for which it was designed. At the time the bridge was built we did not own and could not then readily acquire the land bounding the north-western buttresses of the bridge. The ravine, therefore, for many reasons, could not be spanned by an embankment. The necessity for the continuation of Bolton-road to New Chester-road was an urgent matter that could no longer be delayed. Hence the only solution of the difficulty was the building of the bridge, which gave us the outlet we required and rendered us independent of adjoining landowners, with the result that we were able later to purchase whatever land we required to the north of Bolton-road. Whether this would have been possible without the independent outlet being first created I cannot say; but if that had appeared to us to be possible, the bridge in all probability would not have been built, and the village would have lost one of its most striking features. The total area occupied by ravines is 121,000 square yards, or about 25 acres. Adjoining one of these ravines we are erecting a gymnasium using wood as the building material. In another, we are erecting an open-air theatre, which for want of a better name will be called the Auditorium (figs. 1, 2). The sloping banks of the ravine allow of a perfect arrangement of seats somewhat on the lines of the classic Greek theatres. Of course, I know it is somewhat risky to build an open-air theatre in this uncertain climate, but the view taken is this, that we may possibly rely on four months during which we shall find this theatre extremely useful, and as the cost of such an open-air theatre is certainly not more than one-quarter that of a fully-enclosed building, it appears to be a fairly economical arrangement. In addition, is it not desirable to cultivate more the capacity of our English climate for open-air summer amusement?

However, in any case it will be an interesting experiment. Adjoining another of the

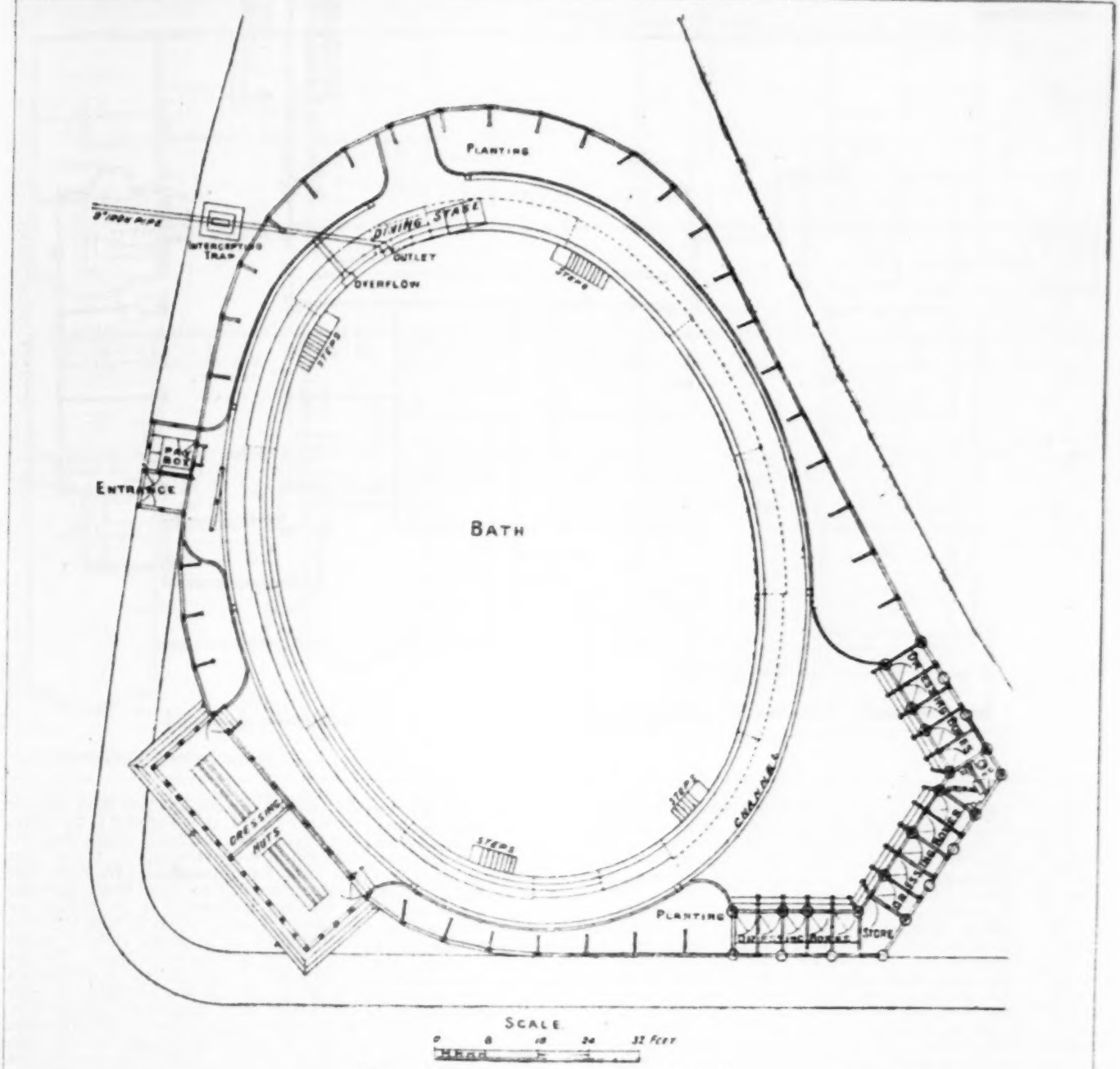


Fig 3.—Open-air Swimming Bath, Port Sunlight. *Messrs W. & S. Owen, Architects.*

ravines and occupying a triangular piece of ground that otherwise could not have been profitably used, an open-air swimming bath (fig. 3) has been made. The shape of the bath is oval; length, 100 ft; breadth, 75 ft.; 3 ft. deep at one end and 7 ft. 4 in. at the other; with wooden dressing-rooms placed in convenient positions.

What I may call the first public building to be erected at Port Sunlight was the Gladstone Hall, opened by the late Rt. Hon. W. E. Gladstone, in November, 1891. This, in my unprofessional opinion, is the most appropriate village hall we have. It is simple and unpretentious, admirably adapted for the purpose for which it was designed, and most suitable and appropriate for erection in a village. The tendency at Port Sunlight has been during the last few years for our architects to become more and more elaborate in architectural design, and more and more extravagant in the use of costly building material. Although this has been done with the most happy results in the majority of cases, I rather look upon such buildings as teaching merely what can be done with unlimited money, and whilst this is very right and proper in its own way, it does not teach us so useful a lesson as the more difficult one of planning and designing simple, beautiful, and inexpensive buildings suitable to village life and village means.

But Gladstone Hall has for long been too small for the needs of the village, and therefore an additional dining-hall has been built, at present devoted entirely to the use of the women and girls of the works and village. This hall is called Hulme Hall, and I certainly feel a little more at liberty to criticise it, since it was built from the designs of the same architects who designed Gladstone Hall, Messrs. William and Segar Owen, of Warrington, than whom no one have been more happy in their work at Port Sunlight, to whom also we are indebted for the quiet grace and beauty of the earliest buildings in the village which have given to it its distinctive English village character. Probably the difficulties connected with the size of Hulme Hall were greater than appear at first sight, the problem being to provide dining accommodation for not less than 1,500 people seated at small tables—say six persons at each table. The effect produced on one's mind by Hulme Hall is not that of a village building, but rather that referred to above as showing what can be done with unlimited money lavishly spent, which is, perhaps, the least useful lesson village architecture should teach. However, the hall answers its purpose most admirably, and should prove to be a centre of life for the village as long as the village is in existence. The cooking arrangements are most admirable and perfect. A happier or brighter spectacle than the hall at noon, with the hundreds of healthy, bright girls seated at the clean, neat tables, would be difficult to find.

At about the same time that we built the Gladstone Hall we built a block of cottages, with a shop at one end of the block. This shop is now used as the village post and telegraph office, and is well worth attention. The half-timber work in this shop is solid oak, employed, as nearly as the modern Building Acts will allow, in exactly the same way as it would have been employed had the shop been erected 300 years ago. The same remark applies practically to all the half-timber buildings at Port Sunlight, although there are, I think, one or perhaps two cases where this has not been strictly adhered to. The village stores used to be at this shop, but the growth of the village soon rendered it too small, and therefore large central shops were built from the designs of Messrs. Douglas & Fordham, of Chester. The site selected is at the corner of Bolton-road and Bridge-street, and the group of shops consists of grocery and provision shop, drapery and millinery shop, and butcher's shop. These stores are managed by the employees themselves entirely, and whatever capital is employed is provided by themselves, and whatever profits are made are divided amongst themselves.

Over the entire area of the three shops is the Girls' Institute, with large central hall and side classrooms, the latter formed by movable wooden screens, so that when required they can be thrown into the central hall. This is the girls' club of the village, and one of our most useful institutions. Sewing classes, ambulance classes, &c., are held here during the winter months, and in a lesser degree also during the summer. This institution does not quite correspond to the Men's Social Club, being a more educational institution than the men's club. This latter was built from the designs of Messrs. Grayson & Ould, of Liver-

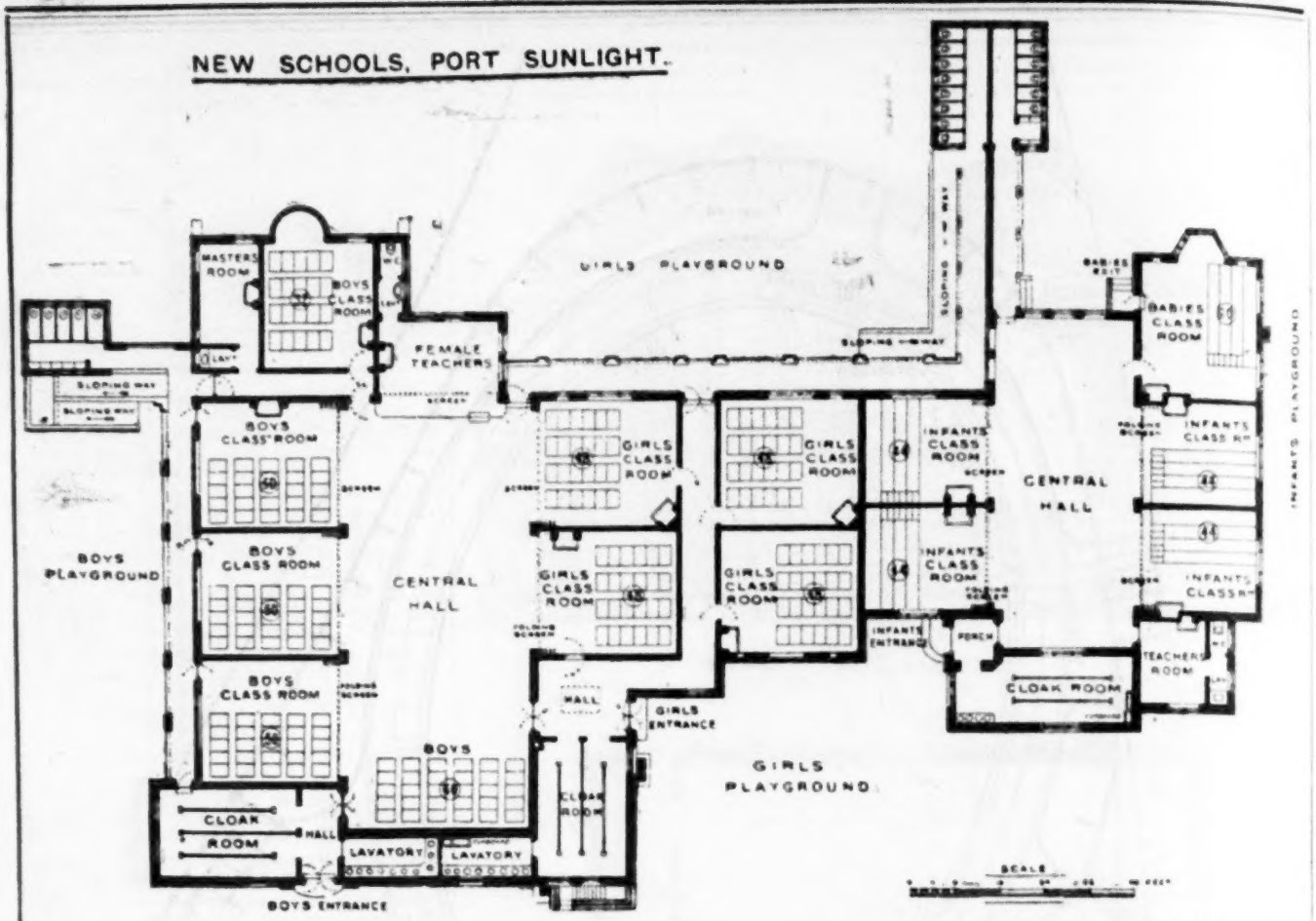


Fig 4. *Messrs. Grayson & Ould, Architects.*

pool, and has proved a most useful and successful building for its intended purpose. It contains the usual accommodation for billiards, games, reading, &c., inside, with a full-sized bowling green adjoining. Opposite the men's club is a range of buildings with a "past." Its present use is as an addition to the school accommodation of the village. Prior to that it was used as a girls' restaurant on the first floor, with small confectionery shop, estate office, and caretaker's rooms on the ground floor. Earlier again the first floor had been divided, as in those early days one half was found to provide ample accommodation for the girls' restaurant, and the other half was available for, and was used as a junior social club. None of these uses, however, is the original one for which the building was designed and built, which was to provide a series of four homes, each with twelve cubicle bedrooms, and with bathrooms, parlour, living-room, kitchen, and all the necessary equipment for accommodating a total of forty-eight girls, being twelve girls in each of the four homes, with provision also for matrons and staff for each house. The charge for this accommodation was 2s. 6d. a week for each girl, and this included everything except washing of the girls' wearing apparel and cost of food. This charge was based upon the cost to the girls of the cheapest and usually very inferior lodgings to be obtained in the worst and most crowded adjoining districts. However, the girls objected to the idea altogether. The homes never attracted more than a dozen girls at one time. Finally they had to be closed and adapted for other uses. I believe the girls' objection was due more to the suspicion they had that they were being asked to live in what appeared to them an institution, and probably also to the ridicule of other girls, than to any other cause. They were making a respectable living, and their womanly pride preferred to be independent, and to find their own lodging accommodation with some working man's family.

But the buildings of which we are most proud at Port Sunlight, both architecturally and otherwise, are the school buildings, built from the designs of Messrs. Douglas & Fordham. All the social work of the village centres round these buildings. Undenominational Divine services are held here on Sundays by our resident minister, the Rev. S. Gamble-Walker. They are used also as Sunday schools on Sunday afternoons, and as day schools on weekdays. In addition they are in constant use for social and educational functions on week-nights. Additional schools are now in process of building from the designs of Messrs. Grayson & Ould (fig. 4), which, when completed, will raise the school accommodation to a provision for over 1,500 scholars. A church is also being built, from designs by Messrs. William & Segar Owen. I would like to describe this church to you, but I am afraid that if I attempted to do so you would be wearied by my inability to clearly convey a correct idea of it to your minds. I can only say that the aim and intention has been to produce an honest piece of work, worthy of the purpose for which it is intended, with every detail, both inside and outside, speaking of thoroughness and truth, and with such ornament only as would add dignity to the building and produce a feeling of reverence in those worshipping within or viewing it from without.

I must not forget to take you to our village inn—called Bridge Inn—built from the designs of Messrs. Grayson & Ould. It is unlicensed, and it is not intended to apply for a licence for the sale of intoxicants, and it is one of our most successful and useful buildings, providing easily day accommodation for many hundreds of visitors, with a few bedrooms sufficient to meet all the demands of visitors requiring to make a longer stay in the village. Considering the difficulties to be overcome in securing all that was demanded of the architects at a cost within the means placed at their disposal, this is certainly one of the successes of the village.

And now, before leaving Port Sunlight and proceeding to the little village of Thornton Hough, let us examine the various types of cottages built at Port Sunlight. We have really two standard types only—the cottage and the parlour house—although we have some half-dozen cottages which have less accommodation than the standard type of cottage, and perhaps a dozen houses, occupied by our clergyman, doctor, schoolmaster, managers and heads of departments, which provide specially for those they were designed and built to accommodate, and present no special variation from the usual villa or moderate-sized family house.

We will, therefore, pass these exceptions over, and devote ourselves to the consideration of the standard type, which really is the type for 97 out of every 100 houses. In planning the standard type the idea has been, firstly, to provide a garden as foreground to the cottage and screen from the road. These front gardens are in every case kept in proper order and cared for by ourselves. We have found by experience that no other plan is successful in securing a character to the village, and avoiding the unsightliness of here and there the obtrusion of neglected plots of garden which would mar the whole effect. This care by ourselves of front gardens is effected at a cost of 3d. per garden per week. In addition to these front gardens we have also allotment gardens to almost each block of cottages. These allotments the tenants cultivate themselves as vegetable gardens, or properly fence and use for poultry, &c. These allotment gardens are placed as near as possible to each cottage, and are the very safety-valve of the village. Their use and appreciation by the villagers speaks more eloquently than any words of mine could do of the absolute need for such means of healthy recreation.

The accommodation in the cottage type (fig. 5) provides for three bedrooms upstairs, and living-room, kitchen, scullery, bathroom, and larder on the ground-floor, with enclosed yard and usual outbuildings. Our experience leads us to believe that any variation from dimensions chosen has not been popular with the villagers. If the rooms are made larger it entails more work on the wife than she is able to devote to their care, and therefore the house soon loses its tenant. On the other hand, if the rooms are smaller, they will not accommodate the necessary furniture, with a like result. In fact, a workman's cottage must fit like a glove the wants of a tenant if it is to be a successful attempt to provide for the happiness and comfort of himself, wife, and family. Having settled by experience the most suitable type of cottage, it has been adhered to in all the cottages at Port Sunlight and Thornton.

The parlour cottages differ from the ordinary cottages in having an additional bedroom on the first floor and a parlour on the ground floor. In a few cases the scullery in these houses has been fitted with a kitchen grate, so that all the cooking could be done there, leaving the kitchen to be used as a dining room. The general type adopted for the parlour houses has proved popular, and therefore has been settled upon as permanent.

The financial aspect of the village at Port Sunlight is soon told. The capital it has taken to buy the 140 acres of land, build the cottage

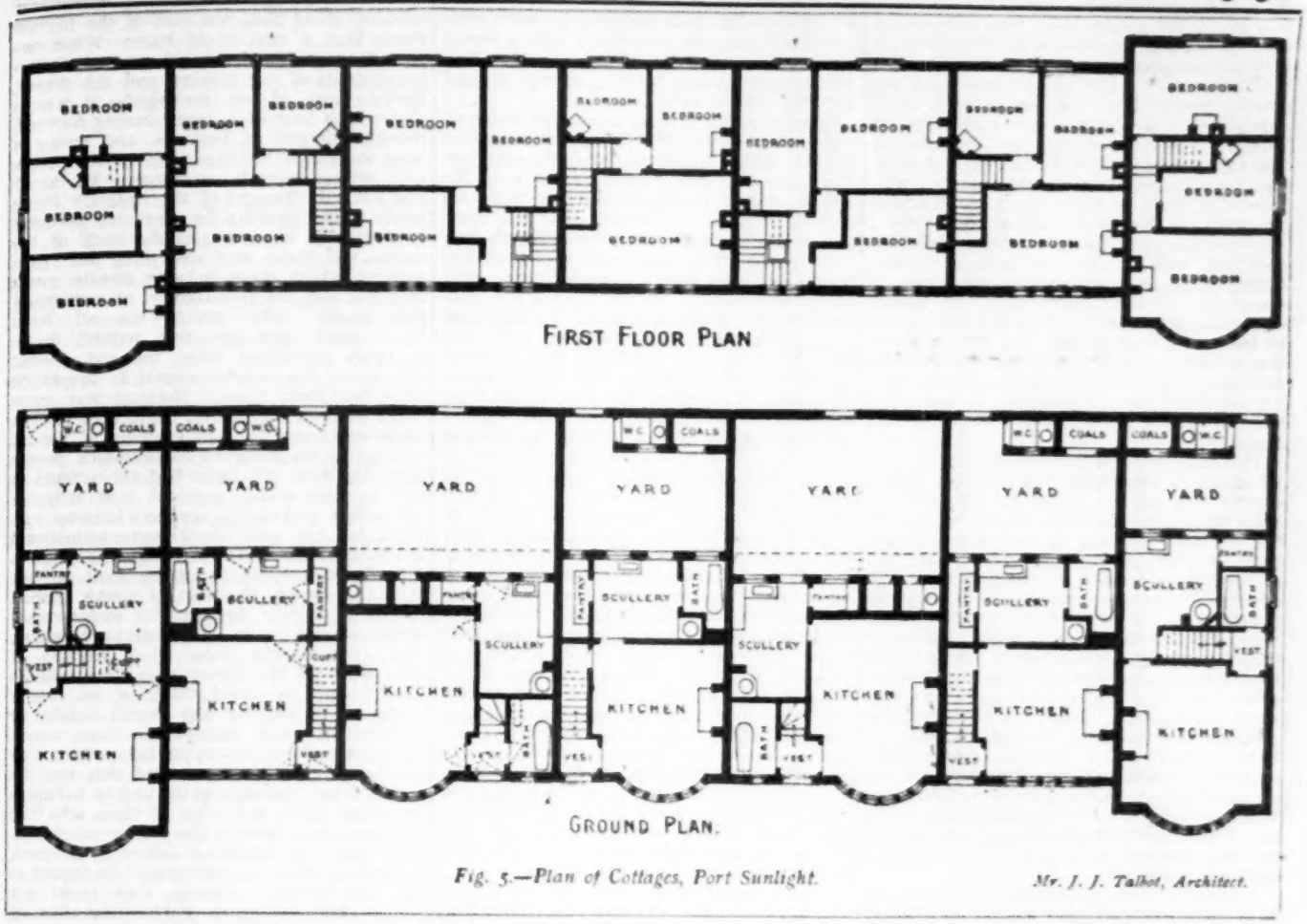


Fig. 5.—Plan of Cottages, Port Sunlight. *Mr. J. J. Talbot, Architect.*

houses, schools, shops, institutions, clubs, &c., and including making the roads, laying out the parks, &c., has been over 350,000*l.*

Our standard type of cottage thirteen years ago cost us 200*l.* each to build, and identically the same cottage in 1901 cost us 330*l.* to build. The parlour houses cost us then about 350*l.* each to build, and now about 550*l.* each.

Upon this 350,000*l.* Lever Brothers, Limited, receive no interest or return whatever, the rents being fixed at such an amount as only to pay for rates, taxes, repairs, and maintenance. The rents have had to be increased from 3s. per cottage per week to 5s. per cottage per week, owing to increased cost of maintenance of parks and roads, and of the cottages themselves. The cost of repairs has gradually grown to extravagant proportions, owing to the fact that every tenant has been allowed practically any repairs he asked for. This was allowed, because the tenants as a whole paid the total cost of repairs and maintenance, but this system does not bring it so clearly home to individual tenants that extravagance in requests for skilled workmen for trivial repairs is expensive. There are clear indications shown by the reduction in the number of such requests during the last six months that the last raising of the rents is having a good effect. From our experience, therefore, it appears that with the most economical expenditure on repairs and maintenance the rental of a cottage to cover rates, taxes, repairs, and maintenance only would be 3s. 6d. per week, and of a parlour house 5s. 6d. per week, and that out of such rental nothing would be available as interest on capital outlay.

Taking the value of the land at 240*l.* per acre, and taking ten cottages per acre as the maximum number possible per acre, after allowing the proportion of each cottage for parks and recreation grounds, we should have a total cost for cottage and land of 354*l.*, which at 4 per cent. interest and 1 per cent. depreciation (in addition to cost of maintenance already provided for), is, say 17*l.* 14s. per cottage per annum, or say 6s. 10d. per cottage per week. Adding this to the cost of rates, taxes, repairs, and maintenance, we have a rental of 10s. 4d. per cottage per week as the letting value of the cottages of Port Sunlight on an ordinary commercial basis. Taking the rate of interest at 3 per cent. and of depreciation at ½ per cent., the sum of 4s. 9d. per cottage per week would be sufficient to meet these, and consequently a gross rental of 8s. 3d. per cottage per week would be sufficient.

My object in mentioning this is to draw attention to the fact that to build a village such as Port Sunlight is not commercially possible at the present time. To ask either of the above rents would be to place the possibility of living in such a village out of the reach of ordinary village tenants. How can the difficulty be met? There are only two possible channels of reduction—cheaper land and less expensive buildings. The value of the land for cottages is fixed by the number of cottages the law allows to be built upon it. If the legal maximum were twelve cottages per acre, as it ought to be, it would be impossible for land for cottages to reach a higher value than twelve cottages would bear. The present Building Acts allow of forty-five cottages being crushed like sardines in a box on one acre of land. The effect of this absence of proper restrictions operates in all cases to the raising of the value of the land. In Liverpool this is seen by competitions amongst builders themselves, who elevate to the level of a fine art the study of how many cottages can be squeezed upon a given area. The ingenious builder who can see his way to squeeze the most houses on a given plot of land sees his way at the same time to give the highest price for the land and so to secure it. The only remedy is the restriction of the number of cottages to be built upon a given area of land—to say twelve cottages per acre. This will allow 400 yards of land for cottage and garden, and proportion of roads and open spaces for parks and recreation grounds. This is the maximum limit possible for maintenance of healthy life. A limit of ten cottages per acre, or 480 yards per cottage would be better.

The next consideration is the cost of building, and I venture to suggest that there is here a magnificent field worthy of, and awaiting the attention of, our best architects. This subject should not be left to the unaided efforts of what we often thoughtlessly call the jerry builder, a man who is, in my opinion, a most useful member of society—more sinned against than sinning. The so-called jerry builder has to make the most of an almost impossible position—to satisfy the demands of the public for cheap dwellings, regardless of consequences—and I maintain that, building upon dear land, he does all that can be done with the materials at his disposal. If our best architects would only come to his assistance by studying the present day requirements to be provided for in dwelling houses, the cheapest and best materials for the purpose, the preparation of the same by machinery, as far as possible, rather than by hand-labour, to study the saving to be effected by the erection of dwelling-houses in large masses rather than singly, and to do so with greater effect and less monotony than by building as at present; in fact, to raise architecture in relation to the dwellings of the million on to broad, comprehensive lines, so as to rest on the only true basis that architecture can ever occupy—the supplying of the requirements of the age with economy, simplicity, and character. Modern domestic architecture requires to adapt itself to the requirements of the twentieth century, in the same way that naval architecture has done in shipbuilding, and to accomplish as much by disregarding traditions, as to building materials, in supplying the demand for dwellings for the masses of the people, as naval architecture has done by disregarding traditions, as to shipbuilding materials, in supplying our present-day demands for ships.

We know that for certain buildings which must be monumental and important we are not likely to discover better building materials than stone, granite, or marble. But dwellings for the masses of the people need not be monumental. If they can be inexpensively built to stand absolutely sound, weather proof, and sanitary, for, say, fifty or sixty years, they will better supply the present-day requirements than if, by increased cost, they were built to stand good for 300 years. The changing life of our citizens, the necessity that is laid upon them to follow their employment wherever it may lead them, and the fact that our experience teaches us that in fifty or sixty years the site of cottages may in all probability be wanted for other purposes—all point to the present-day requirements in cottages being not for cottages to stand hundreds of years, but tens. Understand I am not speaking of the building of villas or mansions, say, from 70*l.* a year rent and upwards. I only refer to cottages, and what for want of a better word I may call "parlour houses," the rentals being from a few shillings a week to say 30*l.* or 40*l.* a year. I know of no greater service the architects of the country could perform during the new century than the designing of economical cottages and small houses, unfettered by tradition as to material to be used, and guided only by the wants of the age for economical, sanitary, healthy houses, to endure for fifty or sixty years only.

We will now pay a short visit to the village of Thornton Hough. Here the problem was not how to build an entirely new village, but

how to rebuild an old one. The exteriors of some of the old cottages in the village were very picturesque when seen in fine weather, but unfortunately, the more picturesque the exterior appearance, the more dirty, dark, damp, unhealthy, and at variance with all ideas of common decency, was the interior. The villagers in many instances, but not every one, were attached to these old ruins. I well remember one case where the tenants, a farm labourer and his wife, had brought up a family of ten children in a cottage with one bedroom only. The thatched roof was falling in and the walls were bulging out. A son-in-law of the tenants was the village carpenter, and I referred the old lady to him to satisfy her that nothing but pulling down was possible. He expressed his inability to do anything, saying in his own emphatic way, "If yer touch the roof ye'll push the walls out, and if yer touch the walls ye'll have the roof down."

This unwillingness to move did not apply to all cases. I remember one tenant, a widow woman with one son, asking me if I could not build her another bedroom to her cottage, as her lad was growing up now and they had both to sleep in the same room. She then proceeded to inform me that he was over twenty. There were other cases even worse than this as far as mixing the sexes in single bedrooms was concerned, and cottages worse than the one with roof and walls falling down. Such cottages were the most picturesque externally. However, all difficulties in the end were overcome. Only the irreclaimable cottages were pulled down and new cottages built in their place. Cottages offering the slightest possibility of reformation were altered, repaired, and adapted to modern requirements. The new cottages were not always built on the site of those pulled down, but as far as possible this was done, so as to preserve the general outline of the village.

A score or more of additional cottages have been added to the village to supply the growing need of the agricultural and farm labourers of the parish.

I have confined the tenancy of the cottages to the village labourers, and in consequence have only about 1 per cent. of direct return on the investment. I have, however, the satisfaction of knowing—if that is any satisfaction—that, under present building possibilities however "jerry" and however plain and ugly I might have built, at the rentals which village labourers can afford to pay, the result as an investment would have been little different. To raise the rents would, in the majority of cases, be to force the original village population away, and to replace them with a different class of tenant entirely. But, indirectly, I believe I have full and ample return, partly in the value of the farms I have in the parish, which would be seriously depreciated if farm labourers could not be housed in the village; and, secondly, in the pleasure it has given to me to do what it appeared to me ought to be done for those living in the village.

Messrs. William & Segar Owen, of Warrington; Grayson & Ould, of Liverpool; and Douglas & Fordham, of Chester, are the architects I was fortunate enough to secure to design and carry out the work. The same general plan or type of cottage has been adopted at Thornton as at Port Sunlight, and the same provision for gardens and recreation grounds has been made.

And now allow me to explain, in order that you may understand my position and work better, that I have always wished that I had been an architect. I have been building since when, at nine years of age, a lean-to rabbit hutch absorbed all my spare time for that year. The following year this rabbit hutch appeared to be capable of extension, and it was pulled down and rebuilt on a more extensive scale, allowing a number of small boys to stand upright inside the hutch. The third year saw a further development in carrying out a startling idea, that of covering the roof with soil to the depth of about 6 in., and planting oats therein, with the object of raising food for the ever-increasing stock of rabbits. But, alas! "the best laid plans of men and mice gang aft agley," to say nothing of those of architects and builders, for although the corn grew luxuriantly in the early spring, it all withered away in the summer heat, and so this economy of space, which, had it proved practicable, might have done so much for distressed agriculture, had to be abandoned. Nothing discouraged, as far as my building instincts were concerned, the year following I built a pigeon cote, and so on, each and every year finding me engaged in some building operation, right up to the present time.

Gentlemen, there is no career that opens up such immense possibilities for influencing the world in which we live as that of the architect. The best and most reliable records of the earliest stages of civilisation in the world are architectural. It is true we have the stone and flint implement age, but although they teach us that their users were able to protect themselves from foes, we learn little of their higher or home life. In the case of the cave-dwellers the incipient craving for buildings does show itself, it is true, but only very slightly. It is not until the first architect appears on the scene that man comes within the reach of a higher life. There can be no possibility of doubt that the architect was the first and most important link in the chain of art workers that have raised us to our present state of civilisation. The art of the painter is a most important one, but it is clear that until there were suitable buildings in which to place them, paintings on walls or canvas were impossible. And yet, architecture is one of the least remunerative of the professions. If an architect does his duty to himself and client, and supplies full necessary detail drawings to the builders; if he carefully and conscientiously supervises the progress of the building during erection, he will have a very small sum left for his own personal remuneration after paying the salaries of draughtsmen and assistants. And it is to the credit of the architectural profession that it does contain a body of men who maintain a high level for their profession, as free as the requirements of life will permit from unworthy thoughts of personal remuneration. And with a very few exceptions this appears to have been always the case with architects in all countries and all ages.

Why it should be so I fail to see, yet it does appear to me from my own observation that, attention once directed to money-making as an aim and object, art vanishes. No, if money-making is to be the aim and ambition of life, then leave architecture and become soap-boilers, sugar-boilers, cotton-spinners, manufacturers, bankers, shipowners, merchants—anything and everything almost. It is true many of these latter reach the Bankruptcy Court, and I hope few architects arrive there. Still, if money-making is the highest aim of life, then architecture is not the calling to follow. But money-making is not the highest object of life, but service to our fellow men, and in my humble opinion an architect's career is one of the most serviceable in the whole range of honourable callings.

Since it has not been my good fortune to be trained to the honourable profession of an architect, and since my instincts all lead me in that direction, I have had to be content to follow, but at a most respectful distance, in the company of architects, and to build under their guidance and direction what little building I have done. No doubt I have led them into many errors by insisting on my own way being followed as against their trained and mature judgment. None the less on that account I hope to remain always on the most friendly footing with all architects, and that my love of the profession, with a life-long devotion to its aims and ambitions, will make them

> "To my faults a little blind,
> To my virtues very kind."

For myself, I thank most heartily and sincerely every architect who has carried into effect, and freed from their native blemishes and defects, and made beautiful, my own crude and untrained ideas.

Mr. G. H. Fellowes Prynne, in proposing a vote of thanks, said it was very refreshing to have a layman like Mr. Lever give them such a charmingly-illustrated paper, and to have had it put in their hands beforehand, and thus to have enabled all to follow the lecturer as he read, must have added greatly to their pleasure. The little peep they had had of Port Sunlight—a very appropriate name for the place—showed them a development far and away beyond anything which had been done before, and Mr. Lever was to be congratulated on his work—and his architect also, judging from the sketches of the buildings erected. To combine philanthropy and business, as Mr. Lever had done, for the mutual benefit of himself and those working about him, was one of the highest ideals that a man could have. When one went through the dreary, dingy, manufacturing districts of our country, and the dreary, dismal parts of our metropolis, it was a pleasure to hear of a man coming forward, though engaged in business, and trying to raise somewhat the dreary lot of the people who worked in such conditions. Mr. Lever had not only thought of the ordinary living needs of the people; he had also provided gardens and allotments at the back of the houses. If there was one thing more than another which could help to elevate men's minds it was the opportunity of cultivating that innate love which we all have for flowers, and also that natural desire to raise something from the soil. What was more, the people seemed to appreciate what had been done. Nothing was more likely to raise the noblest instincts of man in his leisure hours than the teaching of Nature. There must be many difficulties which people doing the work Mr. Lever had set his hand to had to face—social, political, and religious difficulties, and he (the speaker), judging from what he had said about undenominational Divine service, would have thought the religious difficulty was likely to be the most serious. Was the church, the plan of which seemed hardly satisfactory, designed for undenominational service? In his remarks, however, about the church they were erecting at Port Sunlight Mr. Lever rose to a sublime height, and he could think of no higher sentiment or aim for any church builder or architect than was contained in those words. One practical matter was put before them very conclusively in the paper, and that was the extraordinary increase in the cost of buildings in recent years, and those of them who had practical experience in the matter could confirm that. An increased cost of 65 per cent. in thirteen years was enormous. In regard to the Port Sunlight scheme, they could not suppose that away from the business adjacent to these houses the movement would have been such a success. Mr. Lever's advice as to building houses to last for fifty or sixty years might have its good points, but he (the speaker) did not think they would quite agree with Mr. Lever. As architects they felt they ought to build even a cottage as well and soundly as they could, at the same time with characteristic simplicity, and with the present-day regulations which were forced upon them, buildings were not likely to be insanitary. He quite saw Mr. Lever's point, *i.e.*, that cottage buildings, however well built, were likely to be removed after a short time, but that was also the case with many large houses which had not been erected long. They must all feel very much indebted to Mr. Lever for his kind and courteous words of appreciation of architecture and architects. Too often appreciation on the part of clients and the public of architecture was wanting, and the greatness of their art was not recognised as it should be. If architects had a high aim in their art, they must congratulate Mr. Lever on having a higher aim in his work, *i.e.*, the object of trying to raise the lives of people and making them happier and better, and they could congratulate him on his work.

Mr. H. T. Hare, in seconding the vote of thanks, said the Association was fortunate in having had such an interesting paper from a layman, whose ideas were so untrammelled. Messrs. Lever Bros. had had a magnificent opportunity in this scheme, for, as far as could be judged by the plan of the estate, they had secured a piece of ground which, with its levels and the inroads of the sea, was admirably suited for laying out in a picturesque manner, and it was greatly to their credit that they had made such a selection, because if it had been an ordinary estate, with a flat and uninteresting surface, it would have been much more difficult to have laid it out satisfactorily, and in their selection Messrs. Lever Bros. must have seen the possibilities of the site. The manner in which the roads and the estate generally had been laid out seemed altogether admirable and picturesque, and the buildings were certainly far ahead of anything which had been done before in connexion with a manufacturing village. The only estate which he could call to mind which was at all analogous in regard to the character of the buildings was the Bedford Park estate near London, but those buildings were erected under entirely different conditions, and there was no connexion with manufacturing. Messrs. Lever had had sufficient foresight to realise that it was not neces-

sary for each building to pay 5 per cent., and he was quite sure that, though they did not receive an adequate financial return directly from the letting of the houses, they must feel the benefit resulting from their workpeople living in sanitary, well-built, and beautiful houses, and it must have a great tendency to elevate the moral character of the whole of the people on the estate, and it must attract better workpeople. He supposed that crowding was practically non-existent. One of the most interesting features on the estate was the open-air theatre, which seemed to promise a great deal. It was a pity more attempts of the same kind were not possible in England, and, notwithstanding our treacherous climate, there were two or three months of the year when open-air theatres were possible, and it seemed to him that there were many places in England where the open-air theatre would be possible and very desirable, and he hoped the Port Sunlight example would be followed and that more open-air theatres would be established in England. As to the cost of buildings, he was afraid Mr. Lever had put before them an almost impossible ideal, and he did not think an architect could ever hope to compete with the jerry builder as to price, even though he might use his ingenuity to the utmost and economise in every way. At the same time, he believed there was a great deal to be done in the way of cheapening building, and if a greater amount of thought were given to the subject of cottages and small buildings they could be much more economically built than they are now. Mr. Lever said he had always desired to be an architect; he thought Mr. Lever might congratulate himself that he was not, for he was in the fortunate position of being able to admire architecture without having the worry of designing it. Moreover, it was most probable that had Mr. Lever been an architect Port Sunlight would not have existed, and, therefore, they might congratulate themselves that Mr. Lever is what he is.

Mr. Sydney Vacher said they could not compare the building of cottages erected by architects under the ordinary conditions in rural districts with the cottages erected by Mr. Lever for his workpeople at Port Sunlight, where such magnificent accommodation had been provided, not only in roomy cottages, but in schools, halls, gymnasia, and other public buildings. In a village like Port Sunlight the drainage, water, gas, &c., used at the manufactory existed for use in the village, and the cost of these matters being reduced, the problem was a comparatively easy one. Had Mr. Lever succeeded, by giving his workpeople such splendid accommodation, in counteracting the ill effect of trade-unionism? In regard to the housing of the working classes, he felt that the railway companies could provide satisfactory accommodation near the great centres at a reasonable rental, and a rental which would give a fair return on the outlay. All around our big cities the railway companies could get land at a minimum price—land which at present had no approach—on which they could lay out and build villages for the working classes, whom they would carry from the villages to the towns. If that were done on a sufficiently large scale, and on a well thought-out scheme under a competent architect, it would provide satisfactory accommodation for the working classes. What Mr. Lever had done he supposed the railway companies could do at probably half the cost, for the transit of material for the construction of the buildings would be reduced to a minimum, brickfields could probably be started on some of the companies' land adjoining the railway, and the bricks and tiles required could be made at a minimum of cost, and in that way there might be a solution of the difficulty of how to provide accommodation for the working classes near the towns, but yet in the country. Mr. Lever might be able to tell them what was the effect on the health of the people of this large village at Port Sunlight, and the generous amount of land given for cultivation to each cottage—what was the percentage of illness to the ordinary population of other manufacturing towns where kindred industries were carried on.

Mr. Anderson Graham, editor of *Country Life*, said he thought the old building by-laws had been a very great obstacle to the building of good country cottages. Those by-laws had now been abolished, but it would be interesting to know from Mr. Lever if they had interfered in any way with the provision of the necessary accommodation that was required at Port Sunlight. It was an undoubted evil that at the present day we had in England great towns like London, Manchester, Liverpool, Glasgow, and Edinburgh growing to such an enormous extent, while at the same time the country districts were really becoming depopulated. It had often been suggested—and Mr. Lever, at Port Sunlight, had shown that the suggestion was a practical and good one—that some industries might be suitably transplanted to the rural districts. He thought there might be a very large number of such settlements, and that there could be no better model than Port Sunlight. He had been interested in the matter of providing dwellings in the country for the labouring classes, and what Mr. Lever had said had filled him with a certain amount of despair. His friend, Mr. Wilson Fox, of the Board of Trade, had shown that the average rent an agricultural labourer was able to pay for his cottage was 1s. 6d. per week. How was it possible to provide cottages that would pay at that rental? Landlords could not be expected to do it, for they had been losing on their land for years, and agricultural depression was no fanciful affair. A great many landlords had experienced a dead loss on their land, and were quite unable to build cottages for the labourers—though no doubt some could, and some actually had erected fine cottages at considerable expense, which were generally rent free. The problem was how to provide a cottage for an agricultural labourer at a rental which he could afford to pay? He would like to know from Mr. Lever somewhere about the average wage earned by the tenants of the cottages on the estate. Mr. Lever had worked out the rent of those cottages at about 10s. per week, which did not include cost of management, and the question was, what wage should a working man receive in order to be well able to pay a rental of 10s. per week for his cottage? The matter was important, because if cottages were to be erected on a sound business basis rather than a philanthropic one, they would have to be put up at a price which would allow a rent from which a fair return of capital would be possible.

Mr. W. B. Hopkins said he was disappointed to hear that the cottages at Port Sunlight did not pay interest on outlay. No doubt the comparative expensiveness of the artistic finish of the houses had had a good deal to do with that, but the second reason given by Mr. Lever deserved attention—*i.e.*, the cost of the land. He would like to ask Mr. Lever what he thought of the Garden City Association, and their attempt to keep down the first cost of the land (on which they hoped to erect towns and industrial villages) to little more than the cost of agricultural land. As to the by-laws, they had heard a great deal from one quarter and another of the advisability of reducing the stringency of them, and there were certainly by-laws the stringency of which might be reduced without injuring the man for whom the by-laws were created—viz., the occupier. If, by reducing the stringency of the law, the sanitary minimum were also reduced, then the by-laws had better not be altered. He asserted that the by-laws ought to be made more stringent as to the minimum of the amount of the ground on which a house and a certain number of people could be placed, and felt, with Mr. Lever, that the minimum ought to be increased. He was, moreover, convinced that such a restriction applied throughout the whole country would tend, not to enhance, but possibly to reduce, the price of building land, while it would absolutely certainly improve the sanitary conditions of life.

Mr. Francis Hooper said he would like to know from Mr. Lever whether that gentleman stipulated that only his workpeople should occupy the cottages he had erected, and, if so, what proportion of his workpeople occupied such cottages? Mr. Lever seemed to have solved an economic problem, for in spite of what he had done for his workpeople he had prospered himself, and had proved that it pays to take care of the workers. He thought it was also confirmed in other directions that better work was done by people who were well housed and whose general conditions were looked after. It was interesting to hear what Mr. Lever had done for the recreation of the people; railway companies, in their housing schemes, rarely did anything in the way of providing swimming-baths, theatres, schools, &c.; there was no doubt that many young people left the quiet village life for the excitement and amusement of the large towns, which they thus helped to overcrowd; and by seeking to amuse the people in the village, as Mr. Lever had done, they were kept from drifting to the towns. How were his gymnasia and theatre carried on and conducted? Were there men in his employ who undertook the management, or did Mr. Lever provide gymnasium instructors, &c.?

Mr. H. A. Satchell said no doubt criticisms would be made on the paper to the effect that the scheme described was too utopian to be of general application; but it would be a great pity if any one went away with such an idea. There were two absolutely distinct problems in regard to housing the working classes, viz., the housing of the manufacturing class, and the housing of the agricultural labourer. Mr. Lever had in no way attempted to solve the problem of housing the agricultural labourer, which was a very large question and embraced the whole subject of the treatment of agriculture in England. In connexion with the improved housing of the artisan class, he (the speaker) recalled an account he had read of the beginnings of such a movement, initiated by the Waterbury Watch Co. some years ago in America. That company laid down carpets in the rooms where the girls worked and put flowers in the windows, and, in answer to the charge of extravagance, they were able to show that these adornments paid for themselves several times over in the increased and improved production of the workers. Such movements were not merely philanthropic, but produced material as well as ideal results. We heard a great deal nowadays of the attack on England's commercial supremacy by the huge American Trusts. If anything could defeat this invasion it would be by following Mr. Lever's example in improving the conditions of the workpeople, and so obtaining increased results from their labour. In that connexion it was to be hoped that Mr. Lever would have the opportunity of reading such a paper before his fellow manufacturers or the Chamber of Commerce itself. Could he but impress others with his ideas they might be induced to follow his lead to the advantage of the nation generally, and of architects in particular.

Mr. J. T. Arundel said he had had the pleasure of visiting Port Sunlight and Thornton Hough, and what pleased him most was to see the healthy children and to note their eager desire to receive a smile from Mr. Lever as he went among them.

Mr. A. T. Bolton said Mr. Lever had dealt with a subject which ought to occupy their minds very much at the present time. It was all very well to say, with Sir Christopher Wren, that architecture is eternal and you ought to build for it, but it never was so historically, so far as the housing of the mass of the people was concerned. There was nothing more interesting or more extraordinary than a visit to the sites of some of the great metropolises of the past. Take Memphis, for instance, when you walk over the desert sand it is hard, indeed, to believe that here was once a capital of, perhaps, 1,000,000 inhabitants. All these great centres had been resolved into dust, and sun dried bricks was the secret of so complete a loss, and, therefore, he held that Mr. Lever was right in pointing out that what architects had to do was to meet the conditions of the hour, and try and relieve the aspect of towns given over to distressing, monotonous, jerry-built houses, run up purely on a financial basis to bring in a certain percentage. He was afraid that Mr. Lever's suggestion as to limiting the number of houses put on a given area of land was calculated to defeat his own object. If they made it unlawful to erect more than a certain number of houses on that land, he did not see how that could lower the cost of the land; it really would increase it, for the only result would be that it would be more economical to build four or five storied buildings—flats, in fact, such as were erected on the Continent for housing the bulk of the population. The greatest blessing about our monotonous, jerry-built suburbs was that at any rate the people were spread out, and that whereas in Paris the same number of people would be spread into a quarter of the area, in this country a man had a chance of having the open sky over his own roof. Therefore, any limitation of the number of houses put on a given area ought to be very carefully considered, because, beyond a certain point, such a limitation would put up the value of land and make building more expensive. To restrict the market was to make things dearer. Mr. Lever had shown a remarkable apprecia-

tion of the conditions of the problem for a layman when he ventured to criticise his friends the architects by saying that they had shown a tendency to depart from what they were asked to do, which was to build village architecture. Any one who knew anything of old cottage architecture and had seen something of the various model estates which had been built would sympathise most fully with him. Mr. Lever's point amounted to this, that in the old country cottages, built by the people themselves, there was not that elaboration of detail and those architectural features which were to be found in the palaces and houses of the nobility. We do not want in village architecture what is sometimes to be seen in estate agents' windows and on ducal estates, *i.e.*, miniature Hampton Court Palaces boiled down to the dimensions of a cottage. It was not the practice of the Middle Ages to provide every cottage with a twisted brick chimney, and to introduce them now they had to be of terra cotta and, say, one-third of the real size. If they had village work to do, let it be village work, and let it depend to a large extent, as it did before, on the material, and on the tones and values nature would give to it in due course. As a concluding remark he might congratulate Mr. Lever on keeping clear of the morass of amateur architecture.

The Chairman, in putting the vote of thanks to the meeting, said it was to the wealthy layman who understood what architecture really is and could appreciate it as a great art, that we must look for progress in architecture, for however well-trained and however competent architects might be, unless there was a demand for their work, it was impossible to expect that they would produce anything that was satisfactory. They therefore thoroughly appreciated a paper such as they had had from a layman of Mr. Lever's capacity. The secret of the success of Mr. Lever's work at Port Sunlight was, it seemed to him, his early appreciation of architecture. Mr. Lever must be the happiest of men. Talk about the happiness of kings! it was nothing compared to the happiness Mr. Lever ought to feel. Kings were very much created by communities; Mr. Lever had created a community in which all the elements of modern civilisation, in its most representative and free form, had a part. In reference to Mr. Lever's remarks about the girls' homes, it was very interesting to find they were not appreciated; and no doubt the reasons Mr. Lever had mentioned for that were correct. In London, however, such homes were very much sought after, probably because the wages girls received in London were not as high as the wages Mr. Lever paid, and they were insufficient to allow girls to live respectably and happily in London in private lodgings. Moreover, many girls came to London for employment, and they sought these homes because they did not know where else to go. As to the interesting statement in the paper as to the cost of building these cottages, he thought they would all feel, judging from their own experience, that if they built cottages in solid oak half timber, it would be impossible to make a financial success of them; but there were opportunities, especially where the restrictions of the local by-laws were not too stringent, of building something beautiful on the lines of absolute simplicity, of 9 in. brickwork, stucco, and rough cast, and that sort of thing, with tiles and slates, and with no detail. The point touched upon in the discussion as to the influence of trades unions in affecting the price of buildings—an influence which had certainly been one of the causes for the rise in the cost of building mentioned by Mr. Lever—was a matter to be considered. There was no doubt, as was proved recently by the work at Manchester for the Westinghouse Company, that men could be got to lay an average of 1,800 bricks a day instead of the 330 laid by the L.C.C. workmen. He did not say the two classes of work were precisely alike, but in any case the disparity was enormous. Workmen did not see that in limiting the output of their industry they were increasing, amongst other increased costs, the rent of the houses they lived in. Mr. Lever had certainly shown that. The Westinghouse people had shown that, by giving a higher wage than the trade union rate, far more work could be got out of a man—Mr. Lever got it in another way, *i.e.*, by providing social enjoyment, &c., in his villages. In conclusion, the Chairman said he should like to read to students once more one passage from Mr. Lever's paper, *i.e.*, "to raise architecture in relation to the dwellings of the million on to broad, comprehensive lines, so as to rest on the only true basis that architecture can ever occupy—the supplying of the requirements of the age with economy, simplicity, and character." He did not know that they had had a more comprehensive description of what architecture should be than that provided by Mr. Lever.

The vote of thanks having been most heartily agreed to,

Mr. Lever, in reply, said as to the birth and death rate at Port Sunlight, the birth rate was double that of the United Kingdom and the death rate was exactly half, but it must not be forgotten that there were many young people employed in the village. Still, there was this satisfaction to be got from the figures, that though the birth rate was high, the death rate was so low. The high death rate in the United Kingdom was the result of a large infantile mortality. As to the building by-laws, they had to conform to them at Port Sunlight, though he had in one matter defied them. In reference to moving industries into the country, it must be remembered that it was only when works became too cramped for successfully carrying on a business that the opportunity for removal into the country occurred. He doubted whether a young industry, without having had experience elsewhere to prove its strength, could start in the country on a sufficiently large area of land, but from time to time the opportunity occurred for removal on the part of some industries, and he believed that the movement would go on. To carry on an industry in a town was more costly than in the country, provided that in the country there was a railway near the works; and that was apart from the question of rates. As to trades-unions, he paid, and he was quite certain it paid him to pay, the highest trade-union rate of wages in all departments, and the character of the accommodation at Port Sunlight was an addition. The effect was that it produced a better selection of men, who valued their positions and were anxious to keep them. As to what the railway companies would do, he was no believer in British railway companies and their broad-mindedness. One railway—the Lancashire and Yorkshire Co.—had works at Miles Platting. The works became too small, and it was determined to move away. The company attended a land sale (though no one knew the company was represented), and they bought a farm of 200 acres at Horwich at 50*l.* per acre, and they built their works exactly as they had been at Miles Platting. But, worse than that, the company let the land adjoining their works to builders, who built houses on the same crowded plan as at Miles Platting. As railway companies could raise money at 3 per cent., it would have been a fine thing if this company had tried the twelve houses limit that he had referred to. In consequence of what the company had done, many of the workpeople still preferred to live at Miles Platting, going to and from their homes each day, instead of which it ought to have been made possible for them to live at Horwich, which was in a beautiful moorland district. As to the possibility of building houses for tenants to pay at 1s. 6d. per week, he also despaired of doing it, if they were going to be very particular as to the style of architecture of such cottage, and would not have a cottage built that would not stand criticism in the architectural papers. He could not sympathise with those views. One of the greatest uses architects could make of their art was to show that they could build cottages to suit the means of people who had to live in them. Could not architects ignore tradition as to building material, and do for house building what manufacturers had had to do for the manufacture of articles to meet modern requirements? Every article that was used in our daily life had, so far as he knew, been cheapened by modern processes and methods of manufacture, with one exception, *i.e.*, houses. In the matter of building, we were hidebound, and every one was afraid of being criticised and of producing something which, from an art point of view, would be open to criticism; and the result was that houses were the only things which entered into our daily life which had not received the benefit of modern methods of manufacture. He did despair of getting houses to let at 1s. 6d. per week if we were to be tied down in that way, but he did not despair of getting beautiful sanitary houses to let at 4s. per week, and that was the maximum labourers could pay in agricultural districts—probably not as high as that in some districts in the south of England. As to the wages he paid, they ranged from 20s. per week to, say, 50s. In many of the houses there would probably be a son or daughter working in the works as well, so that the income was much more; but they had a rule that no man who received less than 25s. per week could have a cottage the rent of which was over 4s. 3d. per week, including everything; while those earning more than that could have a parlour house the rent of which was 5s. 6d. per week. As to lodgers, that was a difficulty in the building of such villages. At Port Sunlight they had a rule that a tenant who had no family could have two lodgers, and if they had one or two young children they could also have two lodgers; but when the children got to be eight or nine years old, unless there were two only, of the same sex, they were not allowed to keep lodgers at all. The tenants sometimes thought this hard, but the view he took was that though the income might be increased by having lodgers, the children had to pay for it in lessened attention from the wife. As to the question as to the cost of land, his experience about the cost of land at Port Sunlight was as follows. They began by paying 200*l.* per acre, but the last portion was bought at the rate of some thousands per acre, though that was because the owner knew they must have it—a small piece. They paid 500*l.* per acre for a large area. It would be asked: Why had they not taken the whole site at first, when they could have got it at 200*l.* per acre? The answer was that when they bought they thought they had bought ample for all future requirements; but as the village grew they found they wanted more, and so on, and each time they had to pay more. The only remedy for this state of affairs was prudence and forethought. As to the government of the institutions of the village, everything was managed by those who lived in the village. They appointed their representatives on the School Board, and the institutions were managed and supported by the villagers with the one exception of the rent—the buildings were rent free. It was a much better arrangement than if caretakers were put in, for more use was made of the various institutions. The best feature they had at Port Sunlight was the allotment gardens, and it gave men a great pleasure to be able to walk into their gardens for a few minutes before or after work. As to agricultural housing, the village of Thornton Hough was purely agricultural. It seemed to him that in an agricultural district the house should go as part of the equipment of the land. They could not have farms without farm buildings, and they could not have farms in the country without houses for the labourers. The whole thing should be taken together, and the house alone could not be taken to pay. As to what had been said about the Waterbury Watch Co., he might mention the case of another American company, *i.e.*, the National Cash Registry Co., which carried on their work on the same lines. Last year some of the men walked into the office of the manager and told him they wanted the money he was spending on their comfort to be given in wages, and they said they would do for themselves what the company had been doing. The matter was ended now, but it led to a strike which lasted three months. At Port Sunlight, in the early days, very few of the people could understand the matter, and the people were always looking round to see where they were being had, as they thought; but as time went on the suspicion disappeared. In any movement of this kind one must be prepared for such suspicions at first, for there was a tendency in people to think they would be made to pay dearly later on for something one might do for them.

The Chairman announced that the next meeting would be held on April 11, when Mr. W. D. Caröe would read a paper on "The Preservation of Ancient Buildings." On the same day, at 7 p.m., a special meeting will be held to consider some alterations and additions to the by-laws.

The meeting then terminated.

BOOKS RECEIVED.

THE GEORGIAN PERIOD. Measured Drawings of Colonial Work. Part IX. (*American Architect.*)

THE GOVAN SARCOPHAGUS: THE SHRINE OF ST. CONSTANTINE. By P. Macgregor Chalmers, F.S.A., Scot. (Carter & Platt, Glasgow.)

THE ARCHITECTURAL ASSOCIATION SPRING VISITS:

IV.—THE ROMAN CATHOLIC CATHEDRAL, WESTMINSTER; AND POLICE STATION, NEW SCOTLAND-YARD

THE fourth spring visit of the session was made on the 22nd inst. to the new cathedral in Ashley-gardens, Westminster, when, in spite of the weather, a large number of members met to inspect the late Mr. Bentley's wonderful building. Mr. Lamb, the assistant clerk of works, met the party, and, after a brief inspection of the drawings in the office, members wandered more or less at will over the entire building.

The cathedral has been described and illustrated in these columns, so that it is, perhaps, best to give a somewhat impressionist description rather than a detailed account. Criticism is almost beside the mark; and, moreover, the thought was ever present that the force and brain which have called the building into being are no longer; and therefore, no matter what arrangements Mr. Bentley may have made for the completion of his work, the master guiding hand has gone, and the ultimate result may in some ways be other than he would have had it. Mr. Bentley was such an absolute master of detail that his loss is probably far more than appears at first sight, and though the building is in a measure completed and some scheme of internal decoration actually settled, it cannot but lose by his untimely death.

This being granted, it is, perhaps, allowable to take the building as we found it on this occasion, and to attempt in some small measure to record its effect upon the mind rather than to describe in detail its great architectural features.

The exterior is practically complete, with the exception that some 30 ft. of the campanile still remains to be finished. Speaking still from the impressionist point of view, one must confess to a slight feeling of disappointment in the exterior taken as a mass. It does not seem to have that compelling power of arresting the attention which takes hold of you directly you pass in by the great north door. There, you are brought up instantly. The great gaunt brick piers and arches, with the broad wealth of soffit, the flat saucer domes with the suggestion of atmosphere already hanging to them, the vast scale and mass, produce at once that effect no doubt intended, the feeling almost of being crushed beneath the all powerful influences of the great Church. Outside, this effect does not seem to be produced, and though, wherever you turn, you find ample evidence of the architect's care and thought in the beauty of the detail, arrangement of masses, texture of the materials, and in the play of light and shade, there would seem to be a something missing of the stupendous impression produced by the interior. The north entrance façade has had to be designed in receding planes on account of ancient lights opposite, and this perhaps somewhat detracts from the effect which might have been produced had it risen up sheer in one mighty front.

It was, too, with rather a shock that we learnt that the campanile, which will be some 284 ft. in height, is almost entirely built for effect. It will only have one bell, and the rooms in it will probably not be required for any useful purpose.

The present bald frankness of the interior with its scale forced upon the observer by the plain brickwork, and the fine contrast of the small balconies high up in the nave walls, will give place to a casing of marble up to a height of 37 ft., and mosaic above to walls and domes as funds permit. Thus the entire character of the interior will change.

In place of the grand massiveness and strength now so apparent, will come richness and colour and a greater feeling of mystery, perhaps, but also probably some loss of force, some loss of that feeling of personal littleness so marked in the building as it stands to-day in its naked and incomplete outlines.

One of the western side chapels is now being decorated in marble and mosaic, and this, we understand, entirely from Mr. Bentley's own designs. The beauty of the detail and selection of colours is as one would expect from such a master. It was understood that Mr. Bentley was not intended by the authorities to design all the decoration, though we believe he has to a certain extent been consulted; but if he was not absolute arbiter, it would seem there must be some estrangement between the completed building and the conception of its designer. In conclusion, it can only be said that there was but one feeling among the members, a feeling of regret and sorrow that the architect had not lived to see the completion of the greatest work of his life, and Tennyson's oft-quoted words must have been present in many minds.

After leaving the cathedral, a visit was paid to the new police-station in Cannon-row, New Scotland-yard. Mr. Dixon Butler, the architect, was unfortunately prevented by illness from showing the members over the building himself, but Mr. Howell and the clerk of works were most kind in explaining everything. The new offices on the ground floor consist of the usual police-station, parade-room, charge-room, cells, &c., and also stables, while above are quarters for ninety-six single men, four married men, and a chief inspector and sub-inspector.

The men's dormitories are divided into light and airy cubicles, and they have a kitchen, dayroom, billiard-room, and library, with bath-rooms, lavatories, &c. In the basement are drying and brushing rooms for the men's clothes, stores, &c. Space does not permit of a lengthy description, but the building proved full of points of practical interest, and one could not fail to be struck with the remark that the men themselves are found to respond to the care taken in providing healthy and cheerful quarters by a better state of efficiency. The materials employed are similar to those used in Mr. Norman Shaw's building opposite, granite for the lower stories, and red brick above.

It should be mentioned that the new building is intended for the A Division of Police, and forms one other example of the minute care and attention to practical, as well as æsthetic, points which is so necessary nowadays from the architect if his building is to reach the high standard required by modern ideas and aspirations.

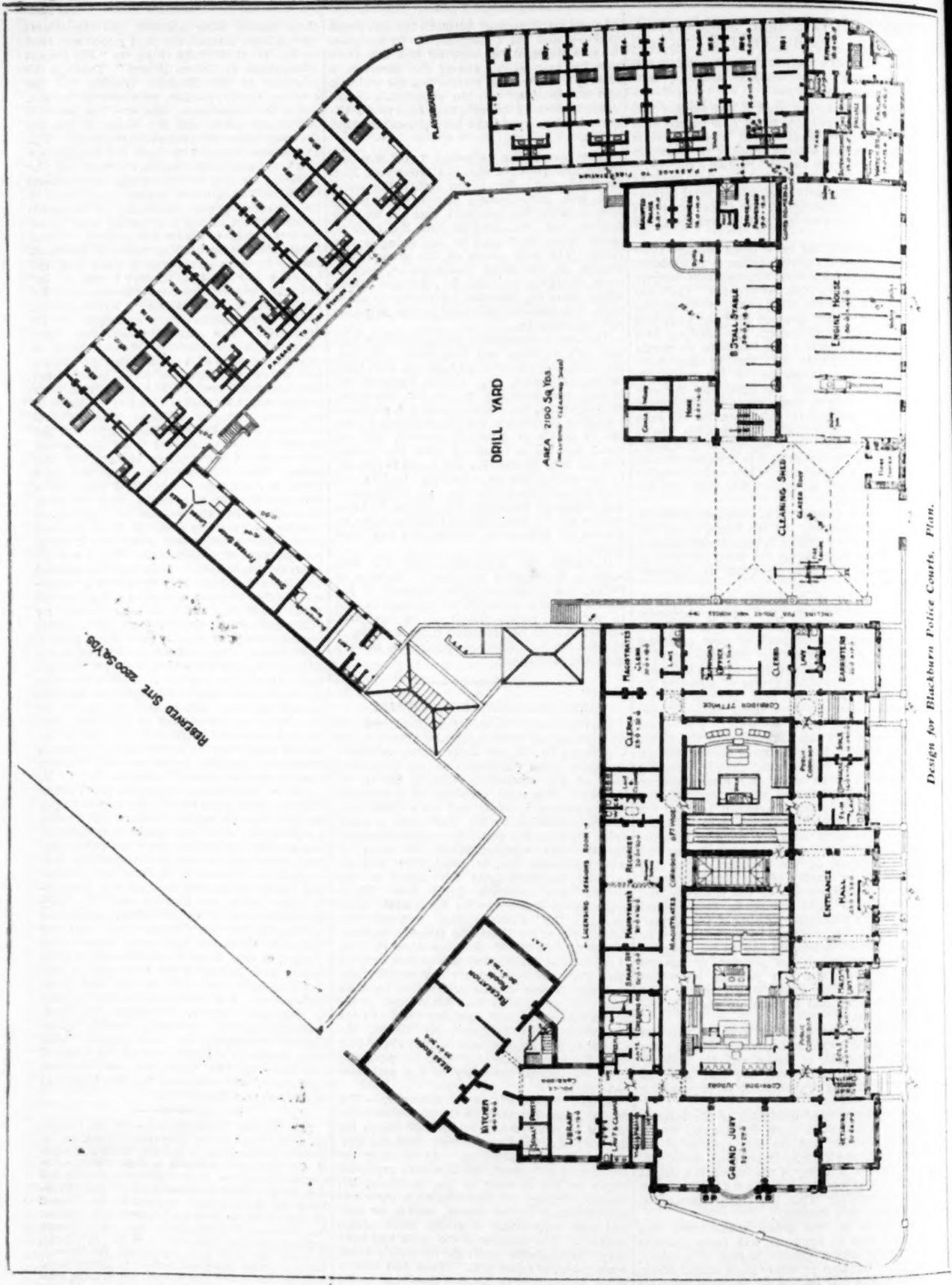
ARCHÆOLOGICAL SOCIETIES.

BRITISH ARCHÆOLOGICAL ASSOCIATION.—At the meeting on Wednesday, the 19th inst., the Chairman, Dr. W. de Gray Birch, exhibited and gave some particulars of an interesting relic of the celebrated Admiral Sir G. B. Rodney. The relic consisted of a cocoanut shell, mounted in silver and with silver foot, which, according to the Hall-mark, is dated 1781, whereas the cup itself, most elaborately carved with representations of ships of war, fortresses, &c., is dated 1782, and apparently commemorates the defeat of the French and Spanish fleets near Martinique, when Rodney in the *Formidable* broke through the French line, engaged the *Ville de Paris*, the Comte de Grasse's flagship, and compelled her to strike on April 13, 1782. It is probable that the cup was at first only the plain shell, but mounted in silver as described, and that it was carved afterwards by some officer or sailor who had taken part in the action mentioned, and so dated 1782. In the discussion which followed, Mr. Gould, Mr. Compton, Mr. Rayson, and Major Frere took part, the latter remarking that he possessed some war medals referring to that particular campaign.

SUSSEX ARCHÆOLOGICAL SOCIETY.—The annual general meeting of the Sussex Archæological Society was held on the 19th inst in the lecture hall of the Lewes Town Hall, the Rev. Canon Cooper presiding. In moving the adoption of the report, the chairman expressed regret at the absence of the secretary, Mr. Michell Whitley, and then alluded to the recent excavations at Lewes Priory, which, he said, had been undertaken with the most earnest industry. The expense of the work had been very considerable, and the Society's funds were not quite equal to it. There had been a great point in their history that year in the opening of the exhibition of Sussex iron in Lewes Castle, and for which they owed their thanks to Mr. Dawson.—Canon Cooper said he had a letter from Mr. Dawson, in which that gentleman suggested that the Society should hold an exhibition illustrative of the ancient staple industries of Sussex. He suggested that the exhibition be held (with the permission of the Hon. Curator) in the lower room of the Barbican Gate-House, Lewes Castle, where there are already some valuable specimens of Sussex pottery.—The report and balance-sheet having been adopted, and the officers having been elected, the first paper was read by Mr. W. H. St. John Hope on "The Recent Excavations at Lewes Priory." Through the exertions of Mr. Michell Whitley and the courtesy of Mr. Blaker, who owned the site, and of Mr. Courthorpe, who was the lessee, it had been possible, said Mr. Hope, to take up the excavations where they were left off. The excavations brought to light the foundations of a very remarkable structure indeed, viz., the infirmary of the Priory. From the remains of the building, it would appear that it was of the Norman period, belonging to the main building of the Priory, and dating from about the first quarter of the twelfth century. It was remarkable for the massive nature of the whole place. So far as his experience went, they had not the like in this country; and so far as foreign monasteries were concerned, he did not remember seeing anything like it abroad. There were extraordinary evidences of its destruction. The method which had been employed in demolishing it had been to support the walls with posts, then dig trenches, and afterwards burn the posts, which gave way under the walls. The walls had been overthrown at all angles. He had no doubt in his mind that the building was the first infirmary of the Priory. The purpose of the ancient infirmary did not quite correspond with those of our modern buildings of that name. The monastic idea was that sick brethren should go there, but it was also a place for the infirm brethren; also for those recovering from the process of bleeding—a remedy so generally resorted to in ancient times. The building was about 100 ft. long, and the nave was 26 ft. wide. There was an upper story to the nave. Investigations showed that there had been very considerable extensions to the infirmary, consisting of a great hall about 113 ft. long and 50 ft. wide, divided by pillars and arches; also that there had been two small buildings, apparently the buttery, pantry, and kitchen. These extensions had evidently taken place about the middle of the twelfth century. One of the marked differences between this second infirmary and the first one was that no such violence had been employed in the demolition of the second as had been employed in the case of the first, but that of the second there was no architectural fragments whatever.—The next paper was on "Trotton Church and its Brasses," read by Mr. P. M. Johnston. Mr. Johnston explained that Trotton was one of the most remote of Sussex villages, being on the Hampshire borders, and having a population of 250. The church now standing was probably erected by Mary de Camoys, the elder, who died in 1310, and whose brass was in the floor of the nave. Another brass, which was hardly inferior in interest, was that describing Baron de Camoys and his wife Elizabeth, widow of Harry Hotspur, mentioned by Shakespeare as "Gentle Kate," and her son.—Mr. Garraway Rice gave some notes relating to iron foundries and ironwork from Sussex wills proved in the Prerogative Court of Canterbury from 1383 to 1558 and from 1649 to 1701. The information gleaned related to personal history, buildings, furniture, wearing apparel, jewellery, tombs, ecclesiastical vestments, &c. An extract, dated 1504, related to a ton of iron of the value of 60s. 8d.—The last paper was on "Ancient Cultivation," and was read by Mr. Reginald Blaker.—*Sussex Weekly News.*

THE STRAND IMPROVEMENT.—Mr. R. Clutton sat as arbitrator at the Surveyors' Institution on Monday last week upon a claim by Messrs. Mitchell & Co., sanitary engineers, against the London County Council for 34,500*l.* compensation for the demolition of their premises in Drury-lane, Wych-street, and Denham-yard, acquired by the Council for the Strand to Holborn Improvement scheme. Mr. Balfour Browne, K.C., and Mr. Morton appeared for the claimants; and Sir E. Clarke, K.C., and Mr. Boyle, K.C., represented the Council. Expert evidence was given, and Sir E. Clarke stated that they had settled the amount for fixtures, fixed plant, and removal of loose plant for 1,000*l.* The arbitrator reserved his award.

PODMORE'S WINDOW-FASTENER.—A specimen of this window-fastener has been sent to us by Messrs. Colledge & Bridgen (Wolverhampton). It is a simple and good one. A short, strong brass arm is pivoted on the rail of the outer sash, and carries through its end a screw which screws down into a countersunk hole in the brass fitting of the rail of inner sash; the hole having a conical section, the screw working into it draws the sashes together. There is no dependence on springs, and nothing to get out of order.



Design for Blackburn Police Courts. Plan.

Illustrations.

BLACKBURN POLICE COURTS: COMPETITION DESIGN.

THIS fine design, by Messrs. Woodhouse & Willoughby, of Manchester, was one of the six submitted in the final competition for the proposed new Police Courts at Blackburn.

The ground floor plan, which is appended, shows the general principle of arrangement followed.

The perspective view was exhibited at the Royal Academy last year.

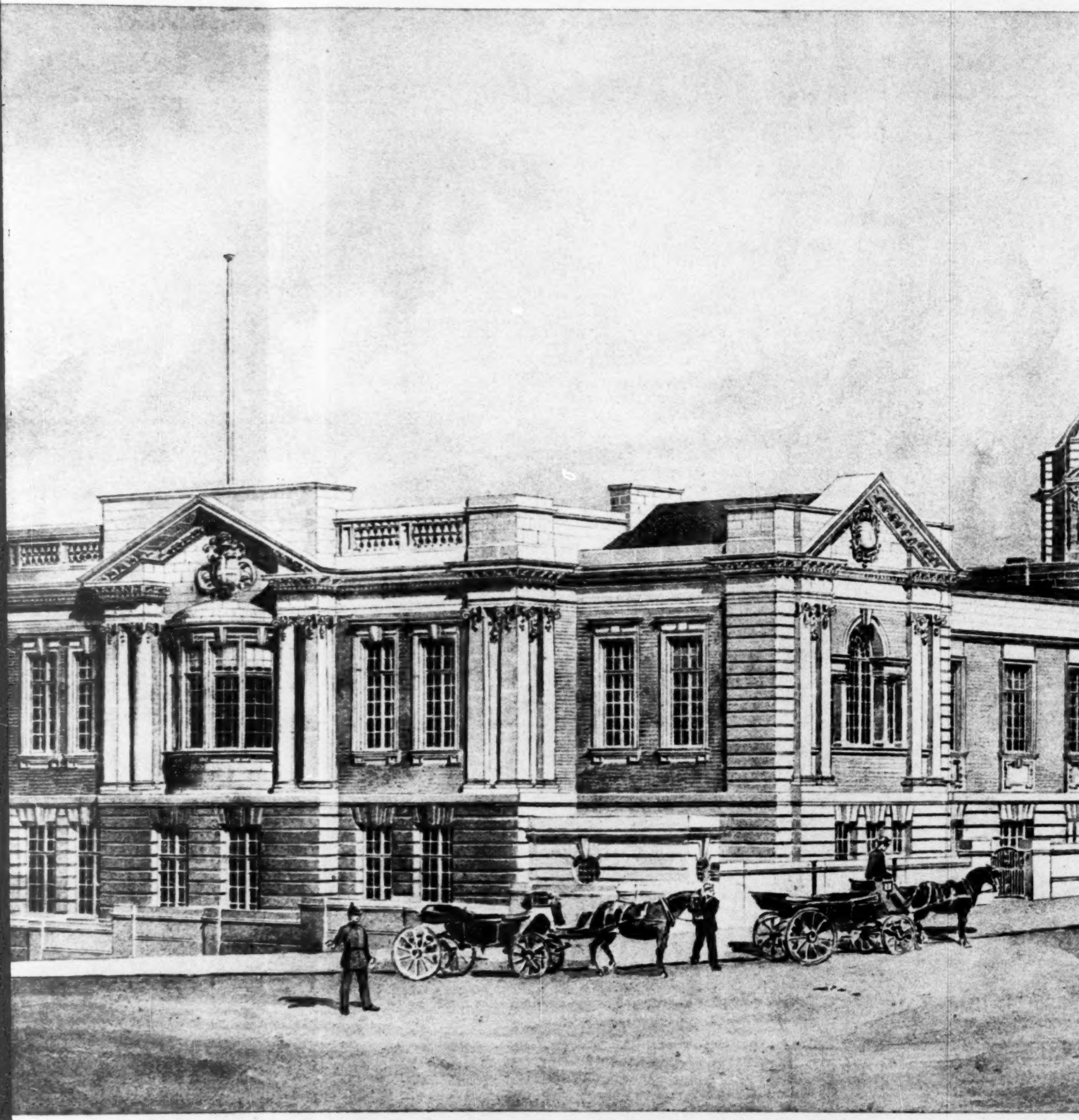
SKETCHES OF ITALIAN WORK.

THE two sketches of part of the library at St Mark's, and of a staircase in a palace at Genoa, which form two of our lithographic plates this week—together with the sketch in the cloisters of San Matteo, Genoa, which appears on p. 321—are from a number of sketches in Italy made by Mr. Herbert Raine.

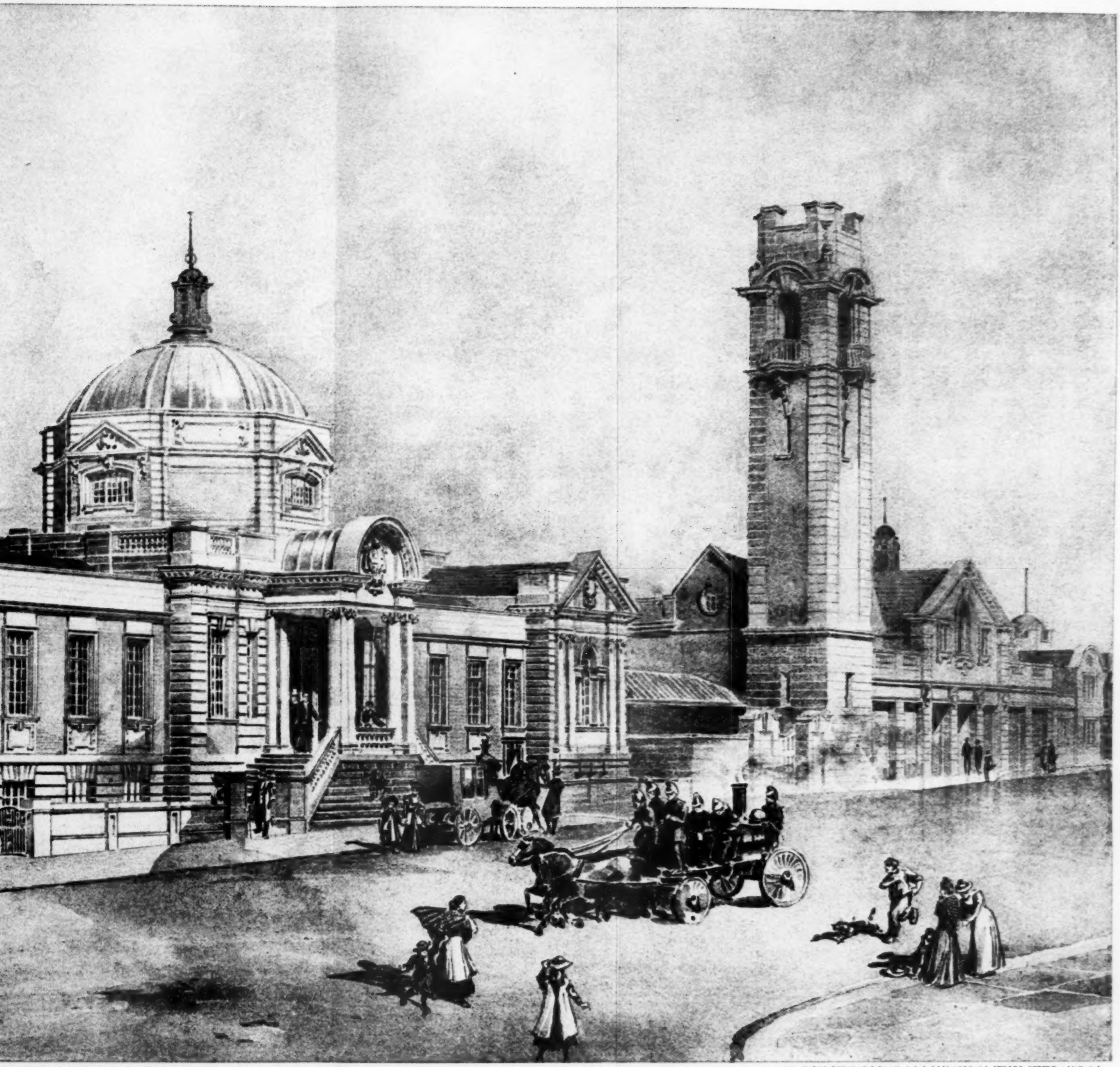
Sansovino's building at Venice is too well known to need comment, but the sketch shows it from a point of view which is not often taken. Most of the published illustrations show the building from a front view. By taking a portion of it in rather sharp perspective, Mr.

Design for Blackburn Police Courts. Plan.

COMPETITION DESIGN FOR BLACKBURN P

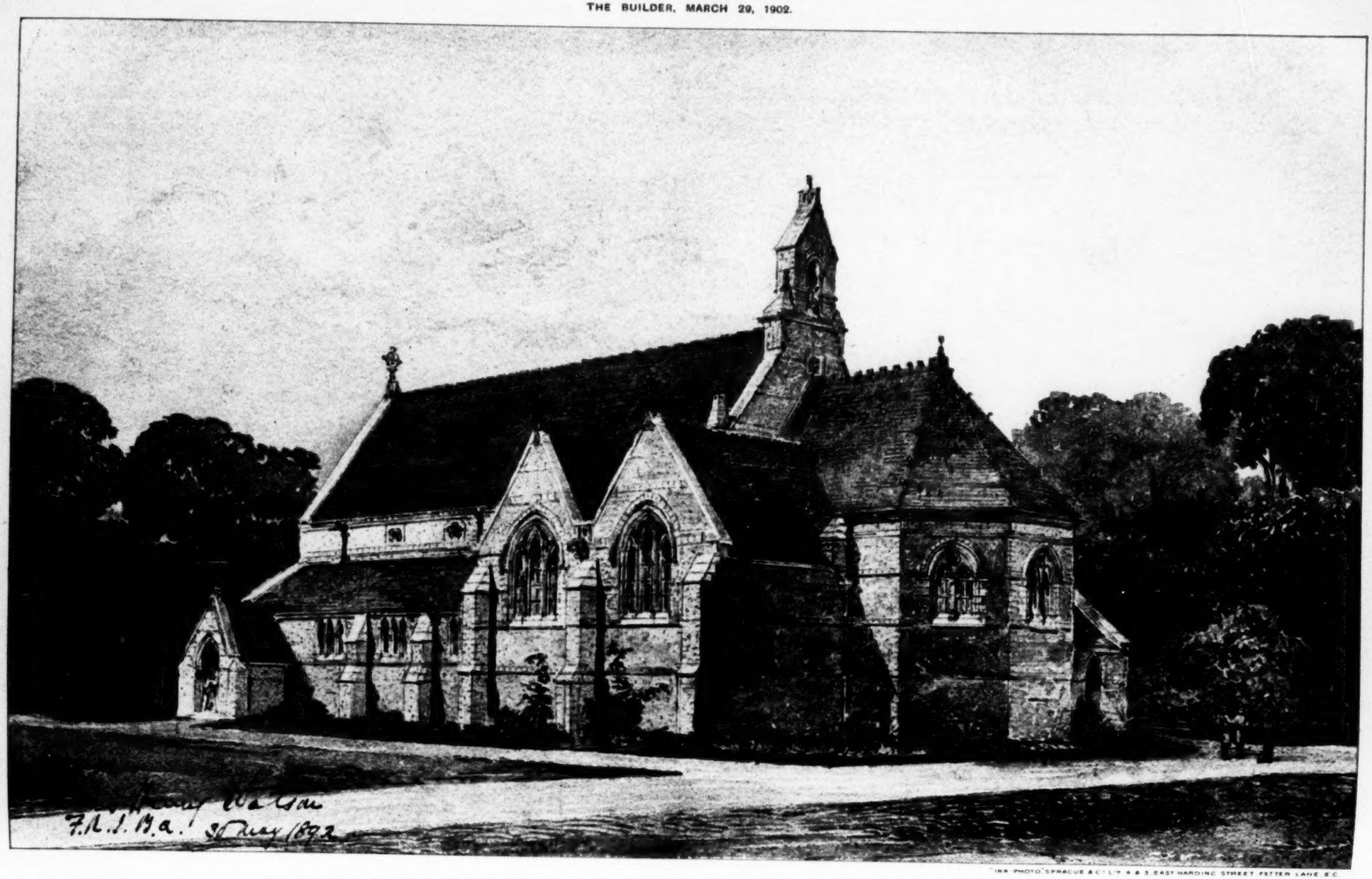


COMPETITION DESIGN FOR BLACKBURN POLICE COURTS AND SESSIONS HOUSE, &c.—



HW-PHOTO. SPRAGUE & Co LTD 4 & 5. EAST HARDING STREET. FETTER LANE. E.C.

USE, &c.—By Messrs. Woodhouse & Willoughby.

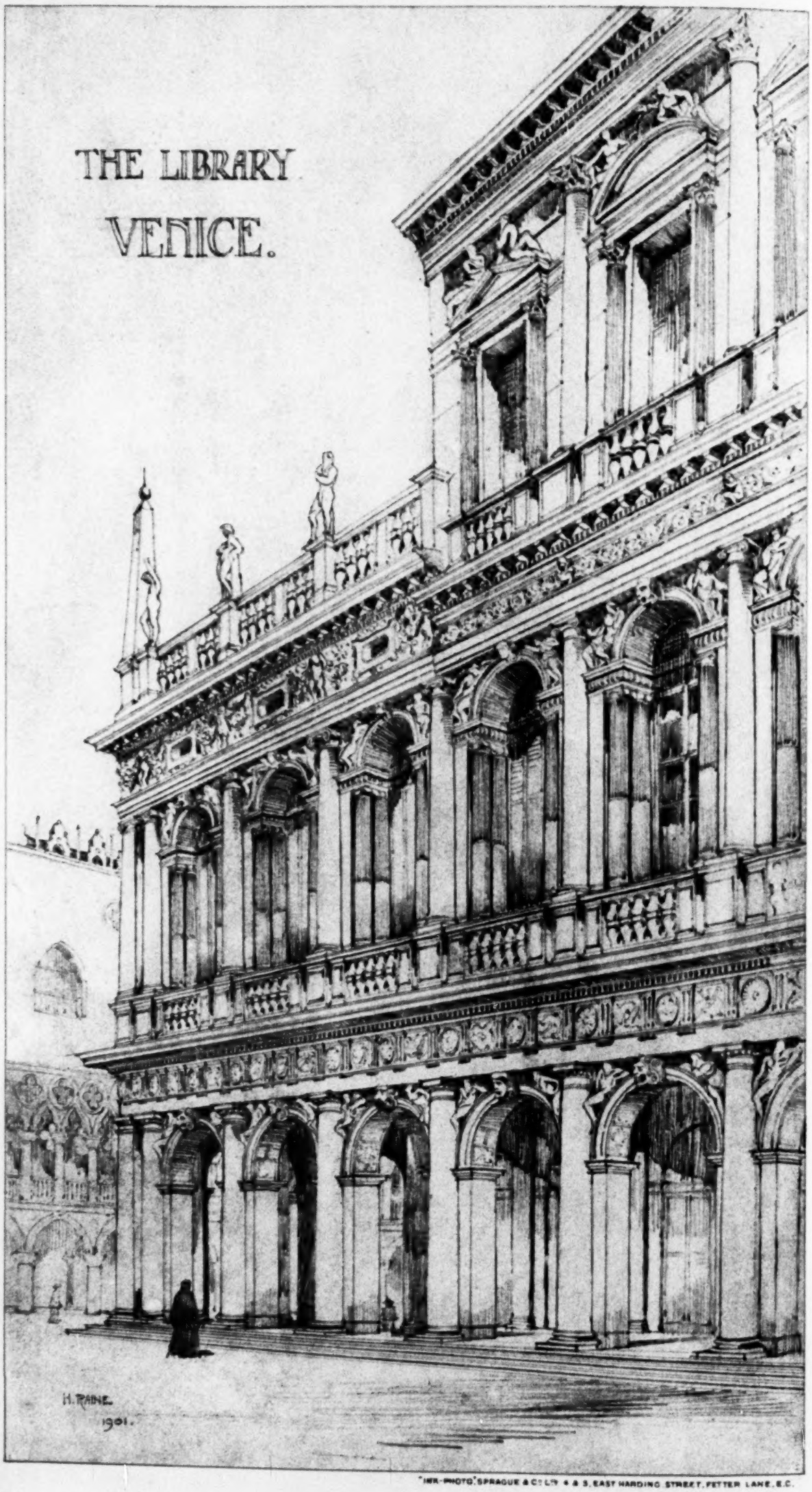


ST. PETER'S CHURCH, CRICKLEWOOD.—VIEW FROM SOUTH EAST.—MR. T. H. WATSON, F.R.I.B.A., ARCHITECT.

INP. PHOTO SPRAGUE & C° LT° 4 & 5 EAST HARDING STREET FETTER LANE E.C.

ST. PETER'S CHURCH, CRICKLEWOOD—VIEW FROM SOUTH EAST.—Mr. T. H. Watson, F.R.I.B.A., Architect.

THE LIBRARY VENICE.

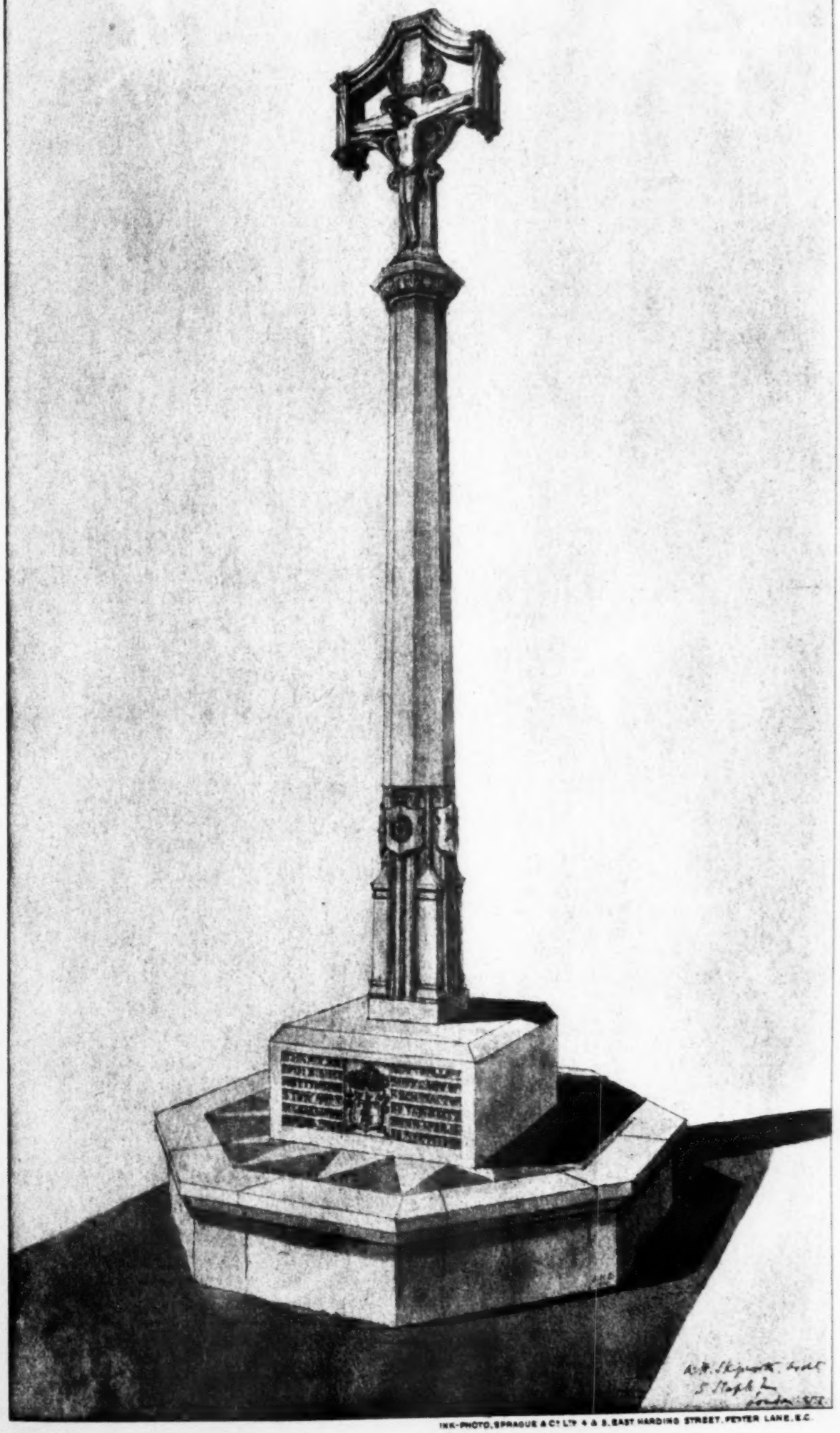


"HER-PHOTO" SPRAGUE & Co LTD 4 & 5, EAST HARDING STREET, FETTER LANE, E.C.

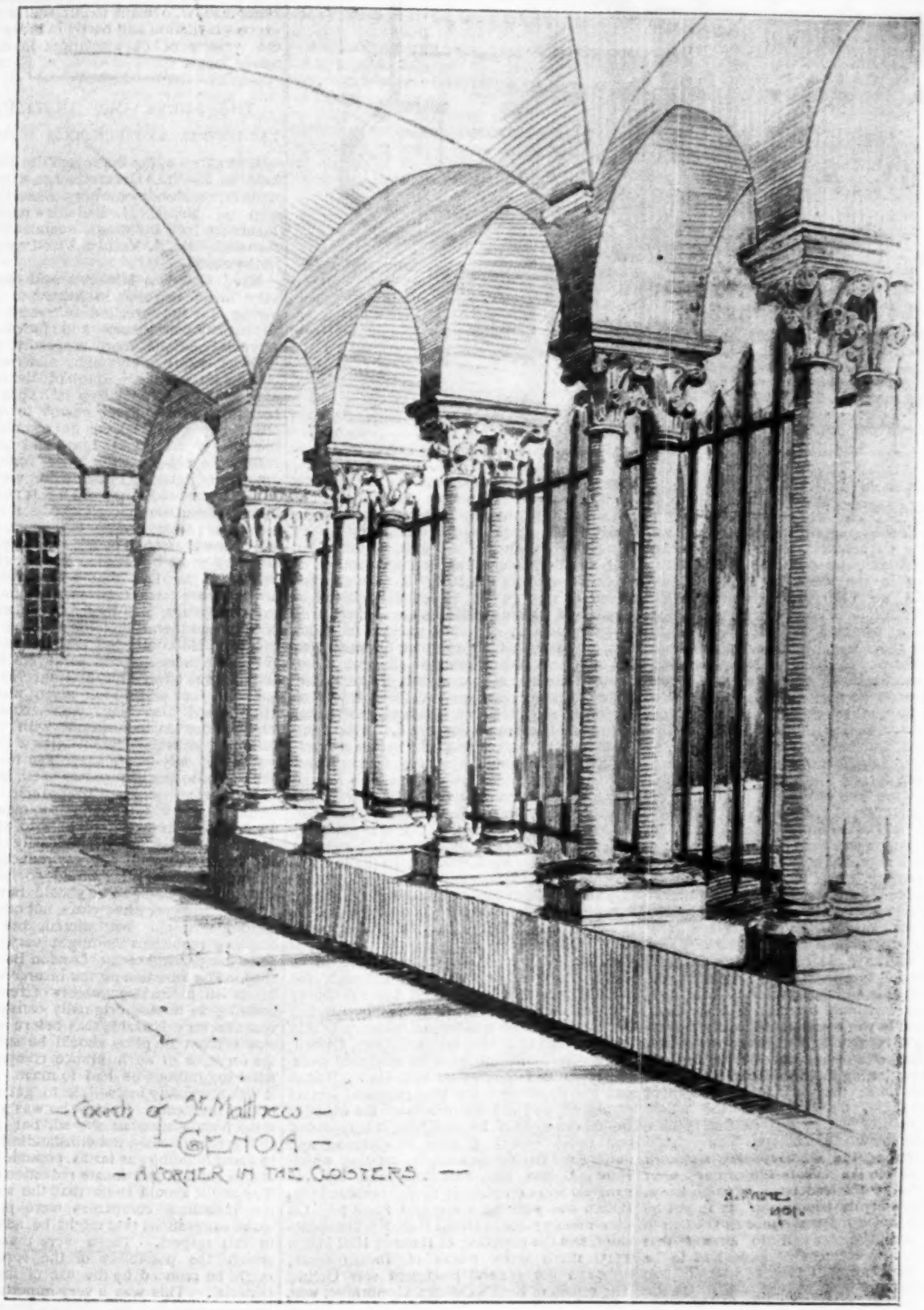
"INK-PHOTO" SPRAGUE & Co LTD 4 & 5, EASY HARDING STREET, FETTER LANE, E.C.

CHURCHYARD CROSS.
HEIGHT 15 FEET 5 INCHES

ERECT AT LEASINGHAM
Nr SLEAFORD: LINCS:



INK-PHOTO, SPRAGUE & Co LTD 4 & 5, EAST HARDING STREET, FETTER LANE, E.C.



Raine has been enabled to convey a good idea of the amount of relief of the sculpture in the spandrels, and the sketch in general is a very good and effective one.

In regard to the other two sketches Mr. Raine writes :—

"The name of the palace at Genoa in which this staircase occurs I was unable to find out, but it is a very good example of a distinctly Genoese type. The stair runs across the end of an entrance hall 36 ft. long by 25 ft. wide. The first three steps are about 12 ft. wide, but the general width of staircase is only 8 ft. The risers are 7½ in.

The Cloisters of the Church of San Matteo, Genoa, are certainly the most interesting part of the church. Their date is 1310. The shafts of the columns are of a dark-coloured marble, while the whole of the vaulting is whitewashed. The height from floor to apex of arches is only 10 ft. 6 in., and the space between each double column is only 4 ft., so it will be seen that its scale is small, which rather enhances its beauty. The walls are adorned with many beautiful tablets to the memory of great Genoese families."

ST. PETER'S CHURCH, CRICKLEWOOD.

THIS church is built with Bargate (Surrey) stone, the quoins hammer dressed with square stone in stretching courses at intervals bedded on three courses of red plain tiles flush with the face of the walling, which is built in random work. Bath stone from the Monk's Park quarry was used for the wrought stonework. The roofs are covered with Broseley tiles. Internally, Corsham Down stone was used for the arcades, and dressed stonework, and the walls are lined with red heather bricks and malms. The timbering of the roofs is left as from the saw.

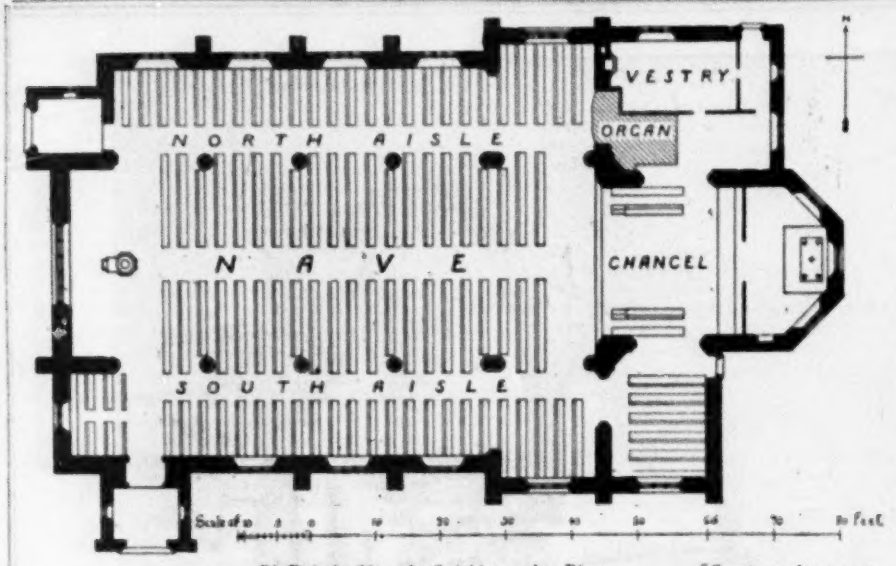
Messrs. Goddard & Sons, of Farnham, were the builders. The architect is Mr. Thomas Henry Watson.

The drawing was hung in last year's Academy.

CHURCHYARD CROSS, LEASINGHAM.

THIS exceedingly pleasing design for a churchyard cross, by Mr. A. H. Skipworth, is reproduced from a pencil drawing exhibited at last year's Academy.

Though the design has something of the character and feeling of mediæval work, yet it will be seen that it is no mere reproduction of mediæval detail, as is so often the case with modern work of this kind; it is the spirit of mediæval work, with a modern treatment.



St. Peter's Church, Cricklewood. Plan. [See preceding page.

CARPENTERS' HALL LECTURES:

EARLY RENAISSANCE BUILDINGS IN ENGLAND.

THE concluding lecture of the series of six given at the Carpenters' Hall, E.C., during February and March, was delivered on Thursday evening in last week by Mr. J. Alfred Gotch, F.S.A., on "Early Renaissance Buildings in England." The lecturer said that architecture, in common with all other things which came under the observation of mankind, showed a tendency to change. No sooner had a set of forms become established and been carried towards perfection than they were supplanted by another set, which in their turn lingered long enough to imprint their character on the period, and then gave way to yet others. In England this process of evolution continued uninterrupted during the fourth and fifth centuries—from the time when they might first be said to have possessed a national architecture—down to the end of the fifteenth century. Each successive fashion was suggested by something which went before, but at the beginning of the sixteenth century, when Henry VIII. came to the throne, the conditions underwent an alteration and certain forms and features crept in which had their origin, not in the severe grey climate of England, but in the luxurious and sunny air of Italy. In other words English architecture felt the touch of the Renaissance, and it was the earliest effects of this new influence to which he desired to draw their attention and to show how these foreign forms were at first received. They knew in course of time they established themselves further, but in the beginning their foothold was somewhat precarious; they effected a lodgment here and there, but not over the whole country; in this feature and in that feature, but not over the whole structure. The struggle went on during the whole of the sixteenth century and into the seventeenth century, until at length, under the leadership of Inigo Jones, the invaders finally triumphed. It might be asked what was the Renaissance in relation to English architecture, and to answer that question a few elementary facts had to be stated. In Europe there had been two main styles of architecture — the Classic and the Gothic; Greece and Italy being the home of the former, and the western countries of Europe the home of the latter. Classic architecture was, of course, the earliest, and dissimilar as the two were, Gothic was in a manner derived from it. The fact of chief importance was that by the end of the fifteenth century all conscious connexion had long ceased, and the workers on Gothic architecture had no notion that there was any other way than their own of dealing with a building and of embellishing it with ornamentation. The Gothic style had become quite independent of the Classic, and was, in many respects, its antithesis. The influence of the Renaissance had dominated Italian work long before it found its way across the sea to England, and it was Henry VIII. who first introduced it when he caused the splendid tomb of Henry VII. in Westminster Abbey to be built. Torrigiano was employed by Henry VIII. on the tomb, and he was followed by a few more Italians. There was, however, a good deal of Italian-looking work done in England which was attributed to foreigners, but which was undoubtedly done by English craftsmen. Henry VII. chapel in Westminster Abbey was entirely Gothic in its character, but in the tomb was to be found the first appearance of the Italian spirit in England. Mr. Gotch proceeded to give on the screen illustrations of Classic and Gothic architecture, and afterwards showed a number of tombs, sections of buildings, &c., designed and executed between 1500 and 1550, his object being to illustrate how, although the general conception of the building was Gothic, yet here and there traces of the Italian spirit crept in, which as years went on got more and more developed. In the tomb of Henry VII., for instance, the base was ornamented in thoroughly Italian fashion, and there were pilasters with vases and foliage which marked Italian work; the two Cupids were obviously Italian, and the patron saints in the panels were live figures. It was not at all improbable, however, that English assistance was obtained for the heraldry. In the tomb of Thomas Lane, in Stamford Church; the tomb of Sir G. Verney, in Bakewell Church; the Salisbury Chantry of Christchurch, Hants (dated 1529); in the choir seats of Christchurch; and in the tomb of Lord St. John in Basing Church were to be found traces of Italian style, although the general lines were Gothic, and it was probably true that in all the execution was by English workmen. There was distinct evidence of this in the panelling at Magdalene College, Oxford, dated 1541, for the names of the workmen were preserved, and they knew that Henry Bolton and one Frost were the two principal joiners employed, and did the whole of the carving. Bolton did some of his badly, for it is recorded that Frost "spent 5 days in cleaning and putting the last touches on the cresting which Henry Bolton had unskilfully and coarsely panelled and carved." It is also recorded that Bolton was paid 8d. a day and Frost 7d. On the chimney piece of Deene Hall, Northamptonshire, and the panelling of Haddon Hall (dated 1545) there were traces of Italian work, although the general treatment was Gothic. The screen of King's College, Cambridge, was, however, one of the finest examples of Italian work to be found not only in England but on the Continent. The date was 1532-6, and the exquisite modelling and execution pointed to Italian workmen. Proceeding to deal with houses, Mr. Gotch pointed out several specimens of Italian work in Hampton Court Palace erected 1514-15, particularly the ceiling in Wolsey's closet. At Layer Marney, Essex, which appeared at first sight thoroughly Gothic, there were some curious mixtures of Italian and Gothic work in the towers. At Sutton Place, Guildford (1523-25), right in the Gothic moulding was some Italian decoration, and at Laycock Abbey, Wilts, the seat of Sir Wm. Sherrington in 1540, there were some tiles with distinct evidence of Italian work. In conclusion, the lecturer said the examples he had given showed how fitful the new fashion was in its appearance, and the other point which they tended to bring out was that in spite of the Italian character of the detail, much of the work was executed by English craftsmen, who must have caught the foreign trick from Italians or Frenchmen, or sometimes Dutchmen, who came to our shores partly by express invitation and partly in order to escape the tyranny of circumstances in their own native lands.

THE SURVEYORS' INSTITUTION:

THE INSURANCE OF BUILDINGS AGAINST FIRE.

A MEETING of the Surveyors' Institution was held at No. 12, Great George-street, Westminster, on Monday evening, when the discussion on Mr. C. H. Bedell's paper, "The Insurance of Buildings against Fire," was resumed. Mr. A. Vernon, Vice-President, was in the chair.

Mr. J. Douglass Mathews said there was a very large increase in hazardous insurance owing to the erection in recent years of so many warehouses and factories. The smaller buildings, more especially, were now built of exceedingly light material, and if a fire occurred in one of them it was almost impossible to stop it. Then in large buildings a very great enemy to fire insurance, but great friend to commerce, was the use of steel and iron, and also large window openings with their corresponding amount of glass. These were very serious things to contend with, and it was not wonderful that insurance offices looked seriously upon buildings constructed in that way. Iron and steel, however, had come to stay, and the difficulty must be faced. Another element of risk was the fact that whereas in former towns there was a yard attaching to large buildings, and therefore isolation, now, in cities and towns, buildings backed upon one another. He contended that it was the duty of the companies to send surveyors to inspect all buildings offered for insurance, in order to see that the description given was correct. They could also say what contingencies might arise in connexion with adjoining buildings in reinstatement after a fire. This would not only be an advantage to the companies, but to the insured as well, because an expert, when looking over their premises, would be able to call attention to many defects. As an expert, he would be able to point out a weakness which might be easily overcome, and would result in a great reduction in the rate of insurance. He would go further, and say that the companies should have a fresh survey made every five years, not only because buildings might be altered, but because building requirements might vary, especially since the passing of the London Building Act, 1894. The attention of the insurer would also be called to the impossibility of restoring the building as it was originally constructed. It was also very desirable that before a building was erected the plans should be submitted to the surveyor of an insurance company to see what suggestions he had to make. Formerly it was absolutely impossible to get a reduced rate of insurance. Things, he was glad to say, were now somewhat altered, but there was still great difficulty, notwithstanding the desire to make buildings as far as possible fire resisting, to get a proportionate reduction in the rate. The public should know that the surveyors to the insurance companies were prepared to make suggestions that might be advantageous in this respect. There were many ways in which the possibility of the spread of fire might be reduced by the use of fire resisting material. This was a very important matter, because, now that fire stations were near and hydrants many, a fire could be stopped in a very short time and great expense saved. In the reconstruction of the buildings after the Jewry-street fire a great deal was done to reduce the risk of the spread of a conflagration in the future. The buildings were not all fire resisting, but a great many of them were very nearly, and others were constructed in a way which would prevent the spread of fire to the extent which had occurred. Unfortunately, however, the holders of the property had to pay an extra high premium because of the hazardous area. With reference to the builder's plant and material he must insure himself and take it into account in his own contract, and generally speaking the insurance companies should only be asked to restore premises in the same condition as they found them at the time of the fire.

Mr. Wheeler, K.C., dealt with the question of settlement of claims. He contended that it was time the conditions of policies should be

reconsidered and recast, and said that, in his judgment, the insurance offices would do well to adopt arbitration such as was set forth in the Arbitration Act.

Mr. Lovegrove said that the amount of the policies should be reviewed from time to time, owing to the increased cost of building material and labour. In many instances the amounts fixed by surveyors to estates were often far short of the actual value of the property.

Mr. Woodward said that, generally speaking, the insurance companies should pay the full amount of the policies. He agreed that fresh conditions should be discussed.

Mr. H. Chatfeild Clarke said that where an owner was prepared to bring his building up to the very best requirements, covering all steel and iron with plaster, &c., and using fire-resisting materials, a much greater reduction in the premiums should be made. They must all agree that when buildings were constructed in this way the probability of a serious fire was very greatly minimised. They did not now think of putting up matchlining, canvas, and plaster partitions, with a hollow place inside in which gas and flames could accumulate, and be extremely difficult to get at. In days when owners were prepared to go the whole distance to protect their buildings from fire the risks were greatly reduced. Agents of insurance companies were always ready to inspect plans of proposed buildings, and give valuable aid by their suggestions. He considered that the companies should have more surveyors on their staff to inspect the risks which they took.

Mr. Shirley said, in his opinion, also, the conditions of policies should be very much amended, if not done away with entirely.

Mr. Howard argued that in the case of cottages and farm buildings in the country where the value had gone down and the cost of building increased, the insurance companies could not be expected to reinstate the property exactly as before.

The Chairman said the discussion disclosed the fact that there were many surprises in the relations between the insured and insurer. Nine-tenths of the persons who had insured were not fully protected against loss. He thought that faults were on both sides. The present position was very unsatisfactory, and the rates of insurance were intolerantly and grotesquely unequal. The present condition of things did not give to the insurer what he clearly expected and was entitled to expect, namely, full indemnity to the amount of the face value of the policy.

Mr. Bedells, in replying to the discussion, said that in regard to the insurance of buildings in course of erection, the policy taken out by the contractor in the joint names of the builder and owner should not include builder's plant and unfixed material, because one of the fundamental principles of fire insurance was that where two persons were jointly concerned in a policy, it must cover nothing but property in which both persons were interested. The reason was apparent in the case of a dispute, and the builder being found to have acted dishonestly, the owner's insurance was lost as well as the builder's. He strongly favoured the periodical revisions of policies and surveys of the property.

A vote of thanks to the chairman concluded the proceedings.

COMPETITIONS.

MUNICIPAL BUILDINGS, SOUTH SHIELDS.—A special meeting of the South Shields Town Council was held recently for the purpose of considering a report from the Municipal Buildings Special Committee in regard to further plans which have been prepared by the six architects selected to compete. The original designs were based upon a limited cost of 25,000*l*., which sum was subsequently considered inadequate for a pile of buildings in Ogle-terrace. It was, therefore, decided to ask the six competitors to send in new designs based upon an expenditure of 35,000*l*. The committee report that these designs were submitted to the adjudication of Mr. Belcher on February 19, and his report was read on the 5th inst. He states that the six sets of revised designs have all been carefully worked out in compliance with the conditions, and fully justify the selection made for the second competition. He had no hesitation in placing first the design marked No. 2. It was an admirably-arranged plan, and the several departments were conveniently placed. The cost of this design, taken throughout at 1s. 2d. per foot, has been placed by the author at 35,000*l*., but on the cubic capacity furnished by the Borough Surveyor, it amounts actually to 31,875*l*. net, this cost being considerably less than any of the other five works, none of which could be executed for the sum stipulated. The committee decided to adopt Mr. Belcher's selection, and the envelope containing the name of the author of design No. 2 was opened, the architect being Mr. Ernest E. Fetch, A.R.I.B.A., London. Mr. Fetch won the award in the first competition.

ENGINEERING SOCIETIES.

THE INSTITUTION OF JUNIOR ENGINEERS.—On the 15th inst. this Institution held its annual conversazione at the Westminster Palace Hotel, the guests being received by the President, Sir John Jackson and Lady Jackson, and by the Chairman, Mr. Percival Marshall and Mrs. Marshall. Prominent in the exhibition of models, &c., were some fine examples of the work of members of the Society of Model Engineers; a steam and an electric track were erected and model locomotives run upon them. Amongst other features of interest were the Stroh violin shown by its inventor, Mr. Charles Stroh, and the Pianotist; and in the lantern-room a lecturette, entitled "Engineering in Miniature," was given by the Chairman. Sir Charles Hartley, Mr. J. T. Wood, Messrs. Thornycroft, Messrs. Yarrow, the Great Eastern Railway Co., Mr. G. Cussons, Mr. J. B. Thorp, the Power Gas Corporation, Messrs. David Joy & Son, the Parsons Marine Turbine Co., Messrs. Lobnitz & Co., Professor Dalby, the Empire Roller Bearing Co. and the Hulburd Engineering Co. were amongst those who contributed to the exhibition of models, &c.—On the 22nd inst. a visit was paid by the members to the Victoria and Albert Museum, South Kensington, to inspect the collection of naval, mechanical, and scientific models, &c. Mr. W. J. Last conducted the party round, and pointed out the features of special interest. To some old Maudslay's men the sight of the beautiful models which used to be on view in the board room at Lambeth proved particularly attractive, and gratification was expressed that they were thus preserved as a complete collection. Mr. Last showed the members the workshop for the making and repair of models and plant for compressed air by means of which, at a pressure of 5 lbs. to the square inch, some of the models are actuated.

BRITISH ASSOCIATION OF WATERWORKS ENGINEERS.—The seventh annual general meeting of this Association will be held at Leicester on July 22, 23, 24, and 25 under the presidency of Mr. Frederick Griffith, M. Inst. C.E., Corporation Water Engineer.

ARCHITECTS' BENEVOLENT SOCIETY.

A GENERAL meeting of members of this Society was held in the rooms of the Royal Institute of British Architects, No. 9, Conduit-street, W., on Monday, to confirm the alteration in the by-laws adopted at the annual general meeting held on March 12.

The Resolutions, as follows, were confirmed:—

1. That By-law No. 55 shall be amended to read as follows: "All legacies and all donations shall (unless otherwise directed by the donors) be laid out or invested under the direction of the Council, in or upon government or other securities or investments in which a trustee may invest under the powers of the Trustee Act, 1893, or under any subsequent Act or Acts for the amendment of the same, or in or upon any security or investment for the time being permitted by the Chancery Division of the High Court of Justice, or any authority constituted in lieu thereof."

2. That the first word in By-law No. 65 shall be altered from "six" to "ten."

3. That in By-law No. 41 the words "in the second week" shall be substituted for "on the second Wednesday."

HOME ARTS AND INDUSTRIES ASSOCIATION.—The eighteenth annual exhibition of work done in the classes of the Home Arts and Industries Association will be held from May 29 to June 2 in the Gallery of the Royal Albert Hall. The exhibition will include specimens of homespuns and linens, modelling in terra-cotta, metal repousse, woodcarving, inlay, stencils, lace, knitting, baskets, rugs, and toys, and of other arts and industries.

THE LONDON COUNTY COUNCIL.

THE usual weekly meeting of the London County Council was held on Tuesday at the County Hall, Spring-gardens, the Chairman, Mr. M'Dougall, presiding.

Loans.—On the recommendation of the Finance Committee, it was agreed to lend Battersea Borough Council 11,325*l*. for paving works; Hammersmith Borough Council, 7,295*l*. for electric light installation; Poplar Borough Council, 2,280*l*. for paving works; Islington Borough Council, 4,873*l*. for electric light installation; Westminster City Council, 26,400*l*. for alterations to town-hall; and Camberwell Board of Guardians, 78,110*l*. for extension of infirmary.

Housing Schemes.—The Housing of the Working Classes Committee recommended:—

"(*a*) That the estimate of 56,151*l*. submitted by the Finance Committee in respect of the erection of dwellings on the Preston's-road and Norfolk-street sites, Poplar, be approved.

(*b*) That so much of the Preston's-road site as is required for the accommodation of the 269 persons to be displaced by the carrying into effect of the Burford's-court, &c., scheme be appropriated for the purposes of Part I. of the Housing of the Working Classes Act, 1890, under Section 23 of the Act.

(*c*) That, subject to the consent of the Local Government Board, the remainder of the Preston's-road site and the Norfolk-street site be appropriated for the purposes of Part III. of the Housing of the Working Classes Act, 1890, under Section 57 (3) of the Act. . . .

(*d*) That the offer of the School Board for London to pay to the Council a sum of 10,359*l*., subject to the Council taking over the Board's obligations under the Education Board Provisional Order (London) Act, 1899, for the rehousing of 1,030 persons of the working class, and subject to the Council indemnifying the Board against any future liability which may arise in respect of its obligations under the said Act as to rehousing the said number of persons, be accepted. . . ."

The total accommodation to be provided on the Preston's-road site as proposed will consist of five-story balcony dwellings containing 250 tenements of two and three rooms. On the Norfolk-street site it is proposed to build fourteen cottages, each of three rooms.

After considerable discussion the recommendations were carried.

The same committee recommended, and it was agreed, after discussion—

"That the estimate of 30,000*l*. submitted by the Finance Committee in respect of the acquisition of land at Old Oak Common-lane, Hammersmith, be approved; that about 50 acres of land at Old Oak Common-lane be purchased from the Ecclesiastical Commissioners under Part III. of the Housing of the Working Classes Act, 1890, at a price of 550*l*. per acre. . . ."

Southampton-row Widening.—The Improvements Committee recommended that the estimate of 165,500*l*. be approved for the acquisition of the freehold and other interests in the properties on the west side of Southampton-row, between Vernon-place and Bloomsbury-place, with a view to the widening of Southampton-row at the part in question to 70 ft. The Committee reported as follows:—

"The present width of the portion of Southampton-row in question varies from 41 ft. to 46 ft. 5 in. The part of Southampton-row between Bloomsbury-place and Russell-square varies in width from 54 ft. to 68 ft., and no portion of the thoroughfare northwards as far as St. Pancras Church is less than 45 ft. 6 in. wide. We are strongly of opinion that a width of at least 70 ft. is necessary for the portion of Southampton-row in question. The thoroughfare extends northwards by way of Russell-square, Woburn-place, Upper Woburn-place, Seymour-street, and Eversholt-street to Hampstead-road at the Cobden statue, and accommodates a considerable amount of general through traffic. It will be noticed that the width of Southampton-row south of Theobalds-road is to be 80 ft. This portion of Southampton-row carries a great deal of traffic going to and from Theobalds-road, and therefore needs a greater width than the portion of Southampton-row to the north of Theobalds-road. Southampton-row, besides accommodating general through traffic from the north of London, forms the principal outlet for the traffic southwards from Euston, St. Pancras, and King's Cross railway stations. The traffic along the thoroughfare has considerably increased since the removal by the Council of the gates and bars in Woburn-place and elsewhere. There can be no doubt that, upon the completion of the Holborn to Strand improvement, there will be a great increase in the traffic in Southampton-row. The lessees of some of the property affected by the proposed improvement are endeavouring to make arrangements for re-building, and it is to be expected that the approaching com-

pletion of the Holborn to Strand improvement will stimulate the lessees to surrender their present leases, which in some cases have not many years to run, and to obtain grants of new leases in order that substantial business premises may be available in Southampton-row by the time the Holborn to Strand improvement is finished It is to avoid this development of the property that we are submitting our present proposal to the Council, and it is hardly necessary to state that, if new buildings were allowed to be erected, the cost of ultimately carrying out the improvement would be greatly increased."

The Committee also recommended that the estimate of 2,500*l.* be approved for the acquisition of the strips of land required for widening Southampton-row to 70 ft., at Nos. 67, 69, and 71, and at Nos. 83, 85, and 87.

Both recommendations were carried after discussion.

Strand Widening.—The same Committee recommended that a contribution be made of five-sixths of the net cost of the widening of the Strand to 80 ft. at Nos. 91, 92, and 93 proposed to be undertaken by the Council of the City of Westminster, such contribution not to exceed 20,000*l.* The Committee reported as follows:—If the improvement now suggested be undertaken, together with those already sanctioned by the Council, a continuous width of 80 ft. will be secured for the Strand for a length of about 480 ft., namely, from No. 75 to No. 105, Strand—that is from a point a little to the east of Adam-street, almost as far as Terry's Theatre.

The recommendation was agreed to.

Fire Station, Clapham.—It was agreed, on the recommendation of the Fire Brigade Committee, to erect a new fire station at Clapham, at a cost of 13,250*l.*, and to execute the work without the intervention of a contractor.

The Architect's Department.—On the recommendation of the Establishment Committee, Mr. C. A. Sharp was appointed chief assistant in the general constructional branch of the Architect's Department.

Fires in Premises consisting partly of Projecting Shops.—The Fire Brigade Committee reported as follows:—

"With regard to the fatal fire in Wandsworth-road it may be stated that the outbreak occurred in one of three shops on the south side of that thoroughfare, at the junction of Priory-road. Apparently the premises were originally three separate houses of three stories, and projecting one-story shops were subsequently erected in the gardens in front, between the houses and the pavement. At the time of the fire there were means of communication, by doors and windows, between each of the three shops and also with the houses; some of the doors and windows, however, being blocked up by light wooden partitions. The only means of getting into the yard at the back of the building was through the side of the house and basement on the Priory-road side. A fire alarm is fixed outside the premises, but some thirteen minutes elapsed between the discovery of the fire and the giving of the call. During the last ten days two fires of a serious nature have occurred in the same neighbourhood in shops built over the forecourts of houses in the manner described, and, although fortunately no loss of life occurred, the premises were in both instances severely damaged. Both these fires happened before the occupants had retired to rest. The risks of loss of life arising from fire in premises constructed as described are, in our opinion, so great that we think it essential in the interests of the public that it should be a condition in all cases in which shops are built on the forecourts of houses in the manner referred to, that adequate means of escape should be provided for the occupants of such premises. We have communicated this opinion to the Building Act Committee, and have asked that Committee to consider the desirableness of recommending the Council to seek statutory authority to enable effect to be given to the suggestion."

New Street, Holborn to Strand.—The Building Act Committee have had under consideration the naming of the new Holborn-Strand street, and the crescent into which it will open. They agree with the Improvements Committee that the streets should have two distinct names. Several names have been submitted to them. "Council Broadway" was one suggestion. Another was that the millenary of King Alfred might be commemorated. It was pointed out that the settlement of the Danes here outside the City walls, and on a site which included the modern parish of St. Clement Danes, and was traversed by the old and narrow thoroughfare (now to be abolished) bearing the characteristically Danish name of Wych-street, was most probably due to the peace arranged by King Alfred with the Danes. The names accordingly proposed were "King Alfred-street" and "Danes-crescent." Another proposal was to name the straight street after Shakespeare. The Improvements Committee of the Council pointed out to the Building Act Committee that as the actual work of the improvement was begun in the year which marked the commencement of the reign of the present Sovereign, it would be a fitting opportunity for commemorating that event by naming the street "Edward VII.-street," subject to this course meeting with the approval of the Sovereign. With this suggestion the latter Committee found itself entirely in agreement, and they recommended that, subject to the approval of his Majesty being obtained to the proposal, the new main street from Holborn to the Strand shall bear the name "Edward VII.-street."

It was also suggested to the committee that it would be suitable to commemorate the Queen by naming the other street "Alexandra-crescent." To this name, however, they were constrained to object, owing to the fact that it is already in use in many places in London. The Improvements Committee then informed the Building Act Committee that in their opinion the name "Danes-crescent" would not only preserve the historic associations of the locality, but at the same time be a compliment to her Majesty as a Danish princess. With this suggestion the committee could not agree, but thought that as the Council had already allotted a site in the Strand opposite the eastern extremity of the crescent for the memorial to Mr. Gladstone, it was more appropriate that the name should be "Gladstone-crescent." The Building Act Committee recommended that the new crescent, which will run from Wellington-street to the Law Courts, should be named "Gladstone-crescent."

The consideration of these proposals was postponed, and the Council adjourned until April 22.

APPLICATIONS UNDER THE LONDON BUILDING ACT, 1894.

THE London County Council at their meeting on Tuesday dealt with the following applications under the London Building Act, 1894. The names of applicants are given between parentheses:—

Lines of Frontage.

Greenwich.—A one-story shop addition in front of No. 43, Old Dover-road, Blackheath (Mr. A. Roberts for Mr. G. Hall).—Consent.

Westminster.—Blocks of artisans' dwellings to abut upon Page-street, Regency-street, and Vincent-street (Messrs. N. S Joseph, Son, & Smithem for the Council of the City of Westminster).—Consent.

Battersea.—That the resolution sanctioning the erection of a parcels office, milk depot, and covered yard on the northern side of St. John's-hill, Battersea (Mr. S. Bircham for the London and South Western Railway Company), be modified.—Agreed.

Width of Way.

City.—An addition to All Hallows Church, London-wall, City (Mr. H. S. Newton for the Rev. Montague Fowler).—Consent.

Space at Rear.

Westminster.—A block of artisans' dwellings on the south side of Page-street, Westminster, next No. 125 (Messrs. N. S. Joseph, Son, & Smithem for the Council of the City of Westminster).—Consent.

Dwellings for the Working Class.

Westminster.—Two blocks of intended dwelling-houses, to be inhabited by persons of the working class, and proposed to be erected, not abutting upon a street, on a site contiguous to Page-street, Regency-street, and Vincent-street, Westminster (Messrs. N. S. Joseph, Son, & Smithem, for the Council of the City of Westminster).—Consent.

Width of Way, Lines of Frontage and Projections.

Poplar.—A one-story store building in the garden of the Scandinavian Sailors' Home, on the south side of Garford-street, West India Dock-road (Messrs. Niven & Wigglesworth, for Mr. A. Welin).—Consent.

Marylebone, East.—An iron and glass covered way in front of No. 1, Titchfield-road, Regent's-park, with the forecourt fence between such covered way and St. James's-mews at less than the prescribed distance from the centre of the roadway of that street, and with the covered way (Mr. C. Roberts for Madam Charles).—Consent.

Hackney, Central.—An iron and glass shelter at the entrances to the Hackney Empire Palace on the west side of Mare-street, Hackney (Mr. F. Matcham for the Hackney Empire Palace Co., Ltd.).—Consent.

Rotherhithe.†—A three-story warehouse building on the south-west side of London-street, Dockhead, Rotherhithe (Mr. V. Dunkerley for Messrs. W. & R. Jacob & Co., Ltd.).—Consent.

Lines of Frontage and Construction of Building.

Norwood.—A wood and iron urinal and two water-closets on part of the forecourt of the New Park-road Schools, Brixton-hill (Mr. T. J. Bailey for the School Board for London).—Refused.

Formation of Streets.

Wandsworth.—That an order be issued to Mr. F Newman refusing to sanction the formation or laying out of new streets for carriage traffic on the Streatham Lodge Estate on the north-east side of Streatham High-road, Streatham (Mr. C. H. C. Du Cane).—Agreed.

Woolwich.—That an order be issued to Mr. R. Stewart refusing to sanction the formation or laying out a street for carriage traffic in continuation of Westmount-road, Eltham Park, Eltham, and in connexion therewith the abandonment of the formation of a portion of Westmount-road as sanctioned by the Council (Mr. A. Cameron-Corbett, M.P.).—Agreed.

Kensington, South.—That an order be issued to Messrs. Rolfe & Matthews refusing to sanction the formation or laying out, for foot traffic only, of two new streets to lead from Addison-road to Abbotsbury-road, Kensington (Messrs. Jones Bros.).—Agreed.

Buildings for the Supply of Electricity.

Woolwich.—Additions to the electric light station on the east side of White Hart-road, Plumstead (Mr. F. Sammer for the Council of the Borough of Woolwich).—Consent.

Height of Buildings.

Horton.—A building on a site at the rear of No. 73, East-road, Islington, to exceed in height the width of Vestry-street, and the retention of buildings on the west side of East-road, Islington, exceeding in height the width of Vestry-street (Mr. G. Blyton for Mr. E. Gates).—Consent.

**** *The recommendation marked † is contrary to the views of the local authority.*

Correspondence.

BUILDING CONTRACTS.

SIR,—Can you inform me whether a builder can claim an extension of the time named for completion, equal to the stoppages caused by wet weather, snow, frost, &c.?

I have a contract now being carried out, and the completion within a certain agreed time is very essential; but the builder has sent in a list showing that on certain days the men did not work because the weather was unfavourable. On many of the days named the loss was two hours, on others three hours, and some even so small as one hour, and for all this an equivalent extension of time is demanded.

To my mind it is frivolous. I could understand being asked for an extension for severe frost lasting over a period of a week or so, but to ask for an allowance for every time a thunder shower drove the men to shelter seems straining the point.

I have got no means of checking such losses of time, but periods of loss caused by snow and frost I can estimate and am willing to allow for.

During the summer months overtime was made, and that more than balanced loss of time owing to rain, for in no week did the men make less than the full ordinary time.

The contract says nothing about an extension of time for loss caused by inclement weather.

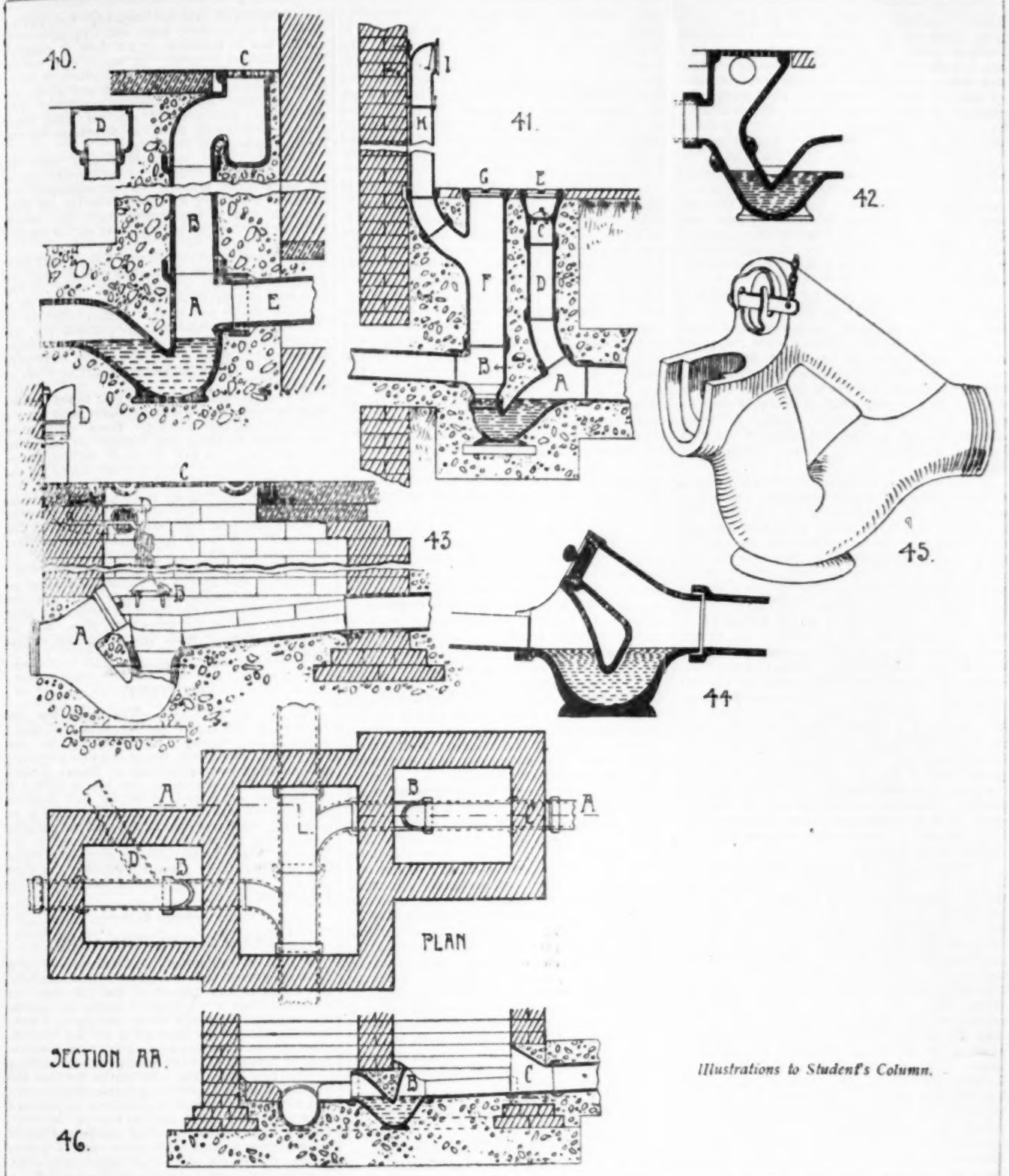
COUNTRY ARCHITECT.

EXETER CATHEDRAL.

SIR,—Not having had the pleasure of hearing Professor T. Roger Smith give his very interesting lecture on Exeter Cathedral I am not able to judge whether you report him correctly as stating "The only portions of the old Norman church now remaining are two low massive towers. With the exception of the two towers the cathedral belongs entirely to the decorated or the fourteenth century period." The Norman walls of the nave still stand, cut into and altered at a later date; transitional work of Marshall's time survives; early English is also represented, especially in the lower story of the chapter house; while its upper stage exemplifies the perpendicular style. HARBOTTLE REED.

Exeter, March 25.

PRESBYTERIAN CHURCH HALL, BYKER, NORTHUMBERLAND.—The foundation stone of the new hall for the Presbyterian Church of England, Gordon-road, Byker, has just been laid. The present contract comprises hall to seat 500, class-room accommodation, and a caretaker's house. Messrs. Badenoch & Bruce, architects, designed the buildings and Mr. Alex. Bruce, who was contractor for the church, is now building the hall. The buildings are in stone, with rock facings, except the back portions of hall and class rooms, which are in brickwork.



Illustrations to Student's Column.

The Student's Column.

PART II.—DRAINAGE.

CHAPTER II.—INTERCEPTION.

INTERCEPTION.—Under ordinary circumstances, if the drains in small systems are properly laid, the sewage is removed before decomposition has advanced to such a stage as to give rise to unpleasant or unhealthy emanations, but decomposition often proceeds to a serious extent in sewers, and invariably in cesspools, and the foul gases thus generated will pass into the drains unless some barrier is interposed. This barrier almost invariably takes the form of a curved pipe or "trap," which retains sewage in sufficient quantity to prevent air passing from the sewer or cesspool to the drain. A trap of this kind is known as a disconnecting or intercepting trap, but confusion will be avoided by adopting the latter term, and by confining the former to traps placed at the inlets of drains.

The position of this trap is thus defined in the Model By-laws (No. 63 for Urban Districts and No. 16 for Rural Districts) :—

"Every person who shall erect a new building shall provide, within the curtilage thereof, in every main drain or other drain of such building which may directly communicate with any sewer or other means of drainage into which such drain may lawfully empty, a suitable trap at a point as distant as may be practicable from such building, and as near as may be practicable to the point at which such drain may be connected with such sewer or other means of drainage."

The words "within the curtilage thereof" have been variously interpreted, but in the case of buildings abutting directly on the public street the only suitable position for the trap is under the footpath. When a garden or other open space intervenes between the building and the street, the trap may be placed under the open space as close to the fence as possible. In the new London Drainage By-laws the words are omitted, and the trap is more particularly described as "a suitable and efficient intercepting trap." Access as to the trap must also be provided for by "a separate manhole or other separate means of access . . . . for the purpose of cleansing it."

Deposits often occur in intercepting traps on account of the obstruction they offer to the flow of the sewage. Various methods of preventing such deposits have been recommended—among which may be mentioned—(1) traps of smaller diameter than the drains, thus, a 4 in. trap would be used to intercept a 6 in. drain ; (2) traps with the bores contracted to an oval or other shape below the level of the standing water ; (3) traps with a drop of 2 in. or 3 in. from the inlet to the surface of the standing water ; (4) quick gradients in the manhole-channels or drains approaching the traps. All these methods aim at giving an increased scour through the body of the trap, but the first has little to recommend it ; if a 6 in. drain running nearly full is intercepted by a 4 in. trap, the latter cannot discharge the full volume of sewage until a certain pressure has been obtained by the sewage being dammed back in the drain or manhole ; on the other hand, if the maximum flow is not

nearly sufficient to fill a 6-in. pipe, a 4-in. or 5-in. drain will give better results. The second method is open to the same objection, but to a smaller degree. Traps with a cascade action are better; according to the law of acceleration of falling bodies, a drop of 3 in. allows the sewage to attain a velocity of 4 ft. per second, and this is generally sufficient to prevent deposits if the volume of the flow is ample. Instead of the direct drop from the inlet to the surface of the standing water, a quick curved slope is sometimes adopted, as this causes less splashing and permits a better scour through the trap. In any case the scour is improved by a high velocity of flow in the approach drain, and if this cannot be obtained, a fall of 2 in. or 3 in. ought to be given to the manhole-channel or pipe.

Intercepting traps may be divided into two classes—(1) for use in manholes, and (2) for fixing under pipe-shafts. Simple siphon bends or "running" traps, without eyes for pipe-shafts, ought never to be used. Almost invariably, one of the two openings required for the ventilation of the drain is placed close to the trap, and a pipe-shaft or manhole must be provided for the purpose; either of these affords facilities for the inspection of the trap, but the manhole is, of course, much more satisfactory.

In the case of workmen's cottages, where economy must be carefully studied, the cost of a manhole for every house cannot always be afforded. If a "combined" system of drainage is adopted, one or two manholes may suffice for a row of houses, and in this case the cost per house would not be prohibitive; otherwise, an arrangement like that shown in fig. 40 best meets the difficulties of the case. From the trap A a pipe-shaft B, which serves as an inlet or outlet for air, is carried up to the surface, and finished with a grating C at the level of the footpath; that shown in the illustration is known as Sykes's and has an iron grate with a stoneware dirt-box and junction-piece. A cast-iron frame with hinged lid is often used, a dirt-box being formed under the perforated portion of the lid to prevent dirt falling into the trap. Cregeen's air-inlet is shown at D in fig. 40. The central portion of the grating is solid, and the dirt drops into the annular chamber around the top of the air-shaft; this arrangement allows the trap to be inspected and (in some cases) cleared from the surface of the ground.

A more elaborate arrangement, known as Winser's "Villa Detector" intercepting, testing, and flushing trap is shown in fig. 41. The trap, A, is of the usual P-shape, 4 in. or 6 in. in diameter throughout, or 4 in. at the inlet and 6 in. at the outlet. Above the inlet a junction-piece, B, is fitted, having a tapered seating to receive the plug, C, when it is desired to apply the water test to the approach drain. This plug is made to fit against a seating in the cleansing shaft, D, and forms, with the air-tight cover E, a double protection against the escape of sewer-air through this shaft. The inspection shaft, F, is shown to be finished with an air-tight cover, G, and a galvanised-iron pipe, H, is carried up from a junction-arm to a suitable point and fitted with a mica flap air-inlet grating, I. Instead of this arrangement a perforated grating, with or without dirt-box, can be used at G. A good type of trap for use with a pipe shaft is Hellyer's "Drain Siphon and Sewer Interceptor" (fig. 42), which combines the cascade action and contracted waterway. The drop from the inlet to the standing water in the 6-in. trap is 6 in., the depth of seal 3 in., and the bore of the trap below the dip 4 in.

The "Detector" trap is made in a somewhat different form for use in manholes, as shown in fig. 43. The trap has a cleaning arm, A, fitted with a stopper with Stanford joint. The plug B can be lowered on to the seating of the trap, when it is desired to apply the water-test to the approach drain and manhole. An air-tight cover C is placed over the manhole, and ventilation is provided by the pipe D D. This trap, it will be observed, has a drop of about 3 in. from the inlet to the surface of the standing water. In fig. 44 a trap without cascade action is shown, and may be used where the levels of the drain and sewer are such as to preclude the use of the cascade type, but suitable flushing apparatus ought to be provided in cases of this kind.

Jones's patent "Lever Stopper" (fig. 45) has been specially designed for the clearing arms of intercepting traps. The frame is made with a flange for fitting into the socket of the arm, and is made tight with cement. The stoppin plate is firmly fixed by means of the lever, to one end of which a chain is attached. The upper end of the chain is hung on a hook near the top of the chamber. If at any time the trap is choked and the sewage is dammed up, the stopper can be released by pulling the chain, and nearly all the sewage will escape through the clearing arm into the drain and sewer beyond. A man can then descend without difficulty to clear the trap.

In large drainage systems it is desirable to intercept branch drains from main drains, in order to prevent aerial communication and to facilitate the separate ventilation of the main and of each branch. In hospitals for infectious diseases the drainage of each block ought invariably to be thus intercepted. An ordinary intercepting trap (B, fig. 46) without clearing-arm is suitable for the purpose. A separate inspection chamber for each branch must be formed at the side of the manhole on the main drain, and a trap must be placed in the wall between the main and branch chambers. The branch channels ought to deliver *over* the channel in the main chamber, as otherwise sewage may pass from the main to the side chambers when the main flow is increased by the discharges from flushing cisterns, &c. The sides of the channels may be raised by means of glazed bricks, as shown in the section, or in other ways. The main chamber, unless it is near the connexion with the sewer, must be fitted with an air-tight cover. Each branch chamber must be ventilated either by means of a perforated cover or a branch-pipe and grating after the manner shown in fig. 43. More than one drain from the same building may be connected to the branch chambers if required, as shown at D. Drains passing under buildings may often be intercepted in this manner with advantage, so that foul air from the lower portion of the drain cannot pass under the buildings. In small chambers, in order to facilitate the passage of clearing rods into the drains, "chutes" may be fixed; those shown at C in fig. 46 are on the inlet drains and are known as "reverse" chutes. The ordinary and reverse forms can be obtained in stoneware, enamelled fireclay, or cast iron.

The clearing arms of intercepting traps are not always designed in such a manner as to allow clearing rods to be easily inserted or the drain to be inspected. In one patent trap the clearing arm is in line with the drain below the manhole, and the body of the trap is twisted. This arrangement somewhat obstructs the flow through the trap, but allows the drain to be easily inspected and cleansed.

All traps ought to have flat bases, so that they can be set perfectly level. Otherwise the seal of the trap may be partly or wholly lost by a careless or ignorant workman. Traps of salt-glazed stoneware are generally used, but for the best work white enamelled ware is sometimes preferred; this looks cleaner when new, but the enamel of inferior ware is apt to crack and peel off. Cast-iron traps of the same general design are made for use in connexion with cast-iron drain-pipes.

NEW ENGINEERING ROOMS, BATTERSEA POLYTECHNIC.

On Saturday evening last week Sir Alexander Binnie opened the new rooms which have been added to the engineering department of the Battersea Polytechnic.

The rooms newly built are the present drawing office (55 ft. by 26 ft.) and the engineering lecture-room (35 ft. by 25 ft.) on the first floor. The old drawing office has been converted into the wood-working shop and the old lecture-room into an advanced engineering laboratory, and fitted with new testing appliances and a centrifugal pump. In addition, the rearrangement of the rooms has given larger laboratories for electrical engineering and for engine testing on the ground floor. An improvement is effected by the removal of the drawing office from its former position immediately over the boiler-room, where it was subject to vibration, to a quieter part of the building. The architect was Mr. E. W. Mountford, who designed the original building, and the cost of the rearrangement and alterations, amounting to about 2,000*l.*, has been met chiefly by grants from the Technical Education Board.

Sir Alexander Binnie said he had been very pleased to inspect the engineering laboratories, and what he had seen supported his conviction that students of the present day were exceedingly fortunate. Looking at the history of the pioneers of engineering, he was struck by the advance which had been made in the preparation of men for their work. They had the advantage of valuable knowledge acquired by those men by constant study and long experience, and the use of apparatus to aid them in research which was then unknown. It was at such institutions as this that they were introduced to those forces of Nature which they would afterwards control, and under such favourable conditions they should exert themselves to discover more about some of those forces than was at present known. He then declared the rooms open.

Professor Unwin associated himself with Sir Alexander Binnie's remarks on the splendid opportunities afforded students for advancement, and compared the testing apparatus provided for their use with that of twenty-five years ago, which, although it served its purpose, was very crude and unwieldy.

Dr. Garnett said he considered that as there were so many branches of engineering and so many institutions where its principles were taught, it was advisable that each institution should take up a different branch and make a special point of it. He wished the students to understand the importance of learning not only how, but why, things happen under certain conditions, as this knowledge would tend to their advancement in their study of the subject.

Sir John Jackson said he was glad to see that we began to realise that young engineers must have a proper educational training. There were some who seemed to think that because we had done great things in the past, we could, without undue exertion, hold our own in the future, but he did not agree with them. He was confident, however, that with a proper training we could produce engineers as capable as any with whom they had to compete, if only students on their part would remember that this could only result from steady and constant application to work.

During the evening the various workshops and laboratories were opened to visitors, and some interesting experiments were made with a 10-ton testing machine and the hydraulic pumps and other apparatus, and in the carpenters' shop was an exhibit of excellent work by the students in that department.

OBITUARY.

MR. W. W. WILLIAMS.—The death has just occurred at Clydach of Mr. Wm. Watkin Williams, architect, of Swansea. The deceased, who was thirty-eight years of age, was at one time a working mason, having been apprenticed to Messrs. Walters & John, builders, Morriston. He was a student at the Swansea Art School, under Mr. F. F. Hosford, and about ten years ago he started practice as an architect. Since that time he designed the plans for several new chapels in the district, and in the Swansea Valley. In addition, the deceased prepared the plans for many schools, including the Wern Schools, Ystalyfera, the Alltwen Schools, and the Pontardawe Schools.

GENERAL BUILDING NEWS.

WESLEYAN BUILDINGS, SUNDERLAND.—A new Wesleyan church, built in Durham-road, Sunderland, was dedicated and opened on the 11th inst. Its erection is part of a scheme of circuit reorganisation, rendered necessary by the moving in a westward direction of the members of the old Fawcett-street Circuit. This scheme consists of the abandonment of three old places of worship, and the building of three new ones. The total cost of the land and buildings will reach something approaching 30,000*l.* The church just opened is cruciform in plan, and has a tower and spire rising to a height of 100 ft. There is accommodation for 800 people, and behind the church is a large schoolroom, with a gallery running round, off which open eight class-rooms. The buildings, which were designed by Mr. J. Jameson Green, of Liverpool, have cost about 9,000*l.*, and the cost of the site was 6,000*l.*

METHODIST CHURCH, NEWPORT, I.W.—A new Methodist church has been erected at Hunnyhill, Newport, at a cost of 1,000*l.* The church, which seats 200 persons, is built of red brick, the roof being of pitch pine, slated. There are no pews. The work has been carried out by Messrs. G. W. Ball & Son, of Cowes, and Mr. S. E. Tomkins was the architect.

ADDITIONS TO ST. ERTH CHURCH, HAYLE, CORNWALL.—The additions to the roof of the south aisle of this fifteenth century West Cornish church are now complete. Working from the designs of Mr. Sedding, architect, the old oak timber has been enriched by the addition of a number of carved bosses—something like one hundred of them—all of varied design. The eastern end of this aisle has been made into a morning chapel, and there the roof has been improved by carved crows' feet projecting from new bosses, and by carved and enriched panels. These additions have been carried out by Messrs. Harry Hems & Sons, of Exeter.

LIBRARY, KINNING PARK, GLASGOW.—A new public library is about to be erected in West Scotland-street, Kinning Park. The library is a gift to the burgh from Dr. Carnegie, and will be known as "The Carnegie Library." The principal entrance is from West Scotland-street, through a semicircular doorway, having polished granite columns. The

vestibule leads to a large hall, measuring 30 ft. by 9 ft. north and south, and 48 ft. by 11 ft. east and west. From this hall access is gained to the lending library, 34 ft. by 30 ft., the reference library, 18 ft. by 23 ft., the librarian's room, and a book store. On the upper floor there is a ladies' reading-room, 18 ft. by 37 ft., with a cloakroom and customary lavatory accommodation. On the next floor there is a gentlemen's reading-room, 45 ft. by 30 ft., and a boys' reading-room, 37 ft. by 20 ft., and a magazine-room, with cloakroom and lavatory accommodation, the latter being panelled and lined with mosaic. The walls of the apartments will be finished with wood panelling, 6 ft. high, and stained and varnished; while the floors will be laid with maple in narrow breadths, the entrance-hall having mosaic and encaustic borders. The building throughout will be heated on the low-pressure system by hot-water pipes and radiators. All the apartments will be lighted by electricity. The approximate cost of the buildings is 5,000*l*. The architects are Messrs. Bruce & Hay, Glasgow.

RECONSTRUCTION OF THEATRE, BISHOP AUCKLAND.—The Eden Theatre, Bishop Auckland, is to be reconstructed from plans by Mr. F. H. Livesay. Mr. W. Hudson, builder and contractor, Bishop Auckland, is the contractor for the work, and the sub-contractors will be as follows:—Masonry, Mr. G. H. Bell; painting, Mr. R. Thompson; plumbing, Messrs. W. Kilburn, Ltd.; plastering, Mr. Kirby; and slating, Messrs. J. and R. Mascall.

BUILDINGS IN ABERDEEN.—The plans of the following buildings have been passed by the Plans Committee of the Town Council:—Alterations and additions in connexion with factory on the south side of Charles-street, for Mr. R. Gordon, per Messrs. Brown & Watt, architects (amended plan); stable on the north side of St. Peter-street, for Mr. James Lamont, per Mr. David Porter, builder; dwelling-house on the north side of Fonthill-terrace, for Mr. A. J. Tulloch, per Messrs. Sutherland & Pirie, architects; two dwelling-houses on the south side of Murray-terrace, for Messrs. James Shand and William Slater, per Messrs. Sutherland & Pirie, architects; addition to weaving sheds on the east side of Berryden-road, for Kilgour & Walker, Ltd., per Mr. R. G. Wilson, architect; alterations in connexion with premises Nos. 335-339, George-street, for Mr. Richard Hallglen, per Mr. George H. Jolly, architect; stable at the rear of dwelling-house on the north side of Ashgrove-road, for Mr. Thomas Kemp; entrance porches at Westfield Public School, for the Aberdeen School Board, per Mr. J. A. O. Allan, architect; premises on the west side of Union-terrace, for the Scottish Life Assurance Co., Ltd., per Messrs. Sutherland & Pirie, architects.

MUSIC HALL, DUDLEY.—Plans for the erection of a new music hall at Dudley have been prepared by Mr. Arthur Gammage, architect, and at the Police-court on the 19th inst. they were approved by the magistrates. It is proposed to erect the building on a site in Hall-street. According to the plans it will have a frontage to the main thoroughfare of 66 ft. with three stories in the centre, flanked on each side with two stories having flat roofs for the convenience of visitors in summer, and ornamental turrets. The main entrances will be from Hall-street, and the principal entrance to the pit from Dudley's-row. The exterior of the building, which will be 110 ft. long, will consist of brick, with terra-cotta or stone dressings in the front; and seating accommodation will be provided for about 2,000 people. The plans have yet to be passed by the Town Council.

LUNATIC ASYLUM, CLARE, IRELAND.—The committee of management having decided to enlarge the present asylum, which was built thirty-five years ago, invited applications from architects for the position of architect. Mr. Francis O'Connor, of Ennis, was selected to prepare the necessary plans and superintend the works. The new buildings will accommodate 400 chronic patients who are now housed in the different workhouses throughout the county. The estimated cost of the proposed works is 35,000*l*.

THE ARCHERS' HALL, EDINBURGH.—We learn that Dr. Rowand Anderson has recently carried out for the Royal Company of Archers of Scotland a reconstruction and enlargement of their hall, at No. 66, Buccleuch-street, Edinburgh. Of the old buildings, which surround a quadrangle about 40 ft. square, the walls remain. The interior has been remodelled, and the chief alterations comprise its division into three floors, with a new grand staircase that leads up to the dinner-hall or mess-room, and a reception-room, measuring 40 ft. by 20 ft., in one side of the building.

POLICE-COURT, MOUNTAIN ASH.—The new police-court attached to the police-station at Mountain Ash was used for the first time on the 19th inst. The building is constructed of native stone, with Bath stone dressings. The courtroom is 36 ft. long by 24 ft. wide, and connected therewith are a room for the justices (16 ft. by 14 ft.) and a witnesses' room (13 ft. 6 in. by 12 ft. 6 in.). The whole of the woodwork is of varnished pitch-pine. The plans were prepared by Mr. T. Lloyd Edwards, the County Surveyor; and Mr. Shepton, of Penarth, was the contractor.

GYMNASIUM, ABERTILLERY.—A new gymnasium attached to the Tillery Workmen's Institute, Abertillery, has just been opened. The gymnasium is 80 ft. long by 38 ft. wide. It is a hall capable of being used also as a concert-room, with seating accommodation for 600 to 700 persons. It was built at a cost of about 2,500*l*. by Mr. D. J. Davies, of Newport, from plans by Mr. F. R. Bates, architect, of Newport.

ISOLATION HOSPITAL, RHONDDA, WALES.—The Rhondda Urban Council's New Isolation Hospital was opened on the 13th inst. The building is situated at the junction of Penrhys-road and Hospital-road, Ystrad, Rhondda. The hospital is composed of seven blocks of buildings, viz., the administrative block, scarlet fever pavilions, typhoid pavilions, laundry and disinfecting block, mortuary, discharging block, and stable. The whole structure is of local stone, surrounded by a wall, and within the enclosure is room for extension of the hospital. Accommodation is provided for thirty-two patients. The cost amounted to 13,385*l*. The plans were prepared by Mr. W. D. Morgan, architect, Ton, whose plans were selected in competition.

COTTAGE HOMES, DOWNEND, BRISTOL.—Cottage homes for children are about to be erected by the Bristol Guardians at Downend. The walls are to be of Pennant stone, with brick bands and dressings, and the roofs covered with tiles. There will be fourteen houses, each for twelve children and a matron. The porter's lodge adjoins the entrance-gates, and the convalescent home (with accommodation for thirty-six) is at the end of the private road. The hall is in the centre of the group, and will be used for school and recreation purposes. The architects for the scheme are Messrs. La Trobe & Weston, Bristol.

MUNICIPAL HALL, &C., COLNE, LANCASHIRE.—The municipal hall, public library, and technical schools erected by the Corporation of Colne at a cost of 10,000*l*., were opened on the 15th inst. The buildings have a main frontage to Albert-road, the principal thoroughfare of the town. The public hall (which will seat 1,000 persons), and library are approached by the elevation to Albert-road, and the technical schools occupy the rear portion of the building, which was erected from the designs of Messrs. Woodhouse and Willoughby, architects, of Manchester.

ADDITIONS TO BIRKENHEAD INSTITUTE.—The present additions to this building complete the facade to Whetstone-lane. They comprise an entrance hall with cloakroom accommodation, &c., and classroom 24 ft. 6 in. by 22 ft. on the ground floor. The first floor is an extension of the science department in the shape of a physical laboratory. Attached to this laboratory are a small workshop and dark room for special optical experiments. The building has been designed and erected under the superintendence of Messrs. T. Mellard Reade & Son, architects, Liverpool. The contractor for the present additions is Mr. Charles Burt, of Liverpool.

FOREIGN.

FRANCE.—The subject given this year to architectural competitors for the Prix de Rome is "Une Imprimerie Nationale." The subject (for once) is a strictly practical one, as Parliament has actually voted the rebuilding of the State printing establishment.——M. Trawinski, well known for his artistic and literary works, has been appointed chief secretary of the National Museums department.——The curious portal of the ancient Bureau of "Marchandes Lingeres," which the Committee of Vieux Paris has saved from destruction, has been rebuilt in the Square des Innocents, near the Halles Centrales.——The municipality of Sainte Savine (Aube) has opened a competition for the construction of a new covered market.——The works are shortly to be commenced for the formation of a railway line from Paris (Mont-Parnasse) to Chartres, by way of Chevreuse and Gallardon.——The Municipality of Bordeaux intend to build a bridge across the Garonne, opposite the Place Richelieu. A new bridge is also to be built at Marseilles between the Quai de la Tourette and the opposite boulevard, to form a more convenient transit over the "Old Port," which at present has to be crossed in boats.——The Corporation of Rennes has voted a sum of 300,000 francs for the completion of the new Church of St. Aubin.——The jury in the competition opened for the construction at Ambert (Puy de Dôme) of a new Savings Bank, has awarded the first premium to M. Chanet, architect, of Vichy, who is to carry out the building.——The preliminary works are shortly to be entered upon for the transformation and prolongation of the canal of the Ourcq to Crecy-en-Mont, and the formation of a new port at la Villette, on the site of the old fortifications.——The celebrated Hôtel de Paiva, in the Avenue des Champs Elysées, has been sold by auction. There had been some talk of making it the Mairie for the VIIIth. Arrondissement, but this idea was abandoned. The house, decorated by Baudry, Delaunay, Gustave Boulanger, Carpeaux, and Dalou, has been acquired by a financial society, which intends to convert it into offices.——The Municipality of Paris has announced that in case of the Government deciding to light the Tuileries garden by electricity, the city will pay 95,000 francs towards the installation, and give an annual subscription of 11,500 francs.

UNITED STATES.—Thirty-six artists are in the important competition for the statue or memorial to General Grant, to be erected in Washington. Amongst them are several well-known American architects. The competition is to be closed on April 1. All competitors are required to submit models, on a scale of 1 in. to the foot. Six designs will first be selected, and, after public exhibition, the final selection, carrying with it the execution of the work, will be made from amongst these.——The National Sculpture Society proposes to hold two exhibitions this year, one in April and the other in October. The April exhibition is to be held in New York, and will be devoted to statuettes, medals, and small objects generally, whilst the October exhibition, which will be held in connexion with the New York Florists' Club in that city, will consist of larger works.——The Boston Museum of Fine Arts has received a large collection of classical antiquities, including a number of Greek terra-cottas and about 100 Greek vases, and the curators are now arranging them for public exhibition.

MISCELLANEOUS.

PROFESSIONAL AND BUSINESS ANNOUNCEMENTS.—The Iroquois Machine Co. (New York) has just been incorporated as a New York company, having purchased the plant and business of the Universal Machine Co. (Providence), and rented a large additional business adjacent.——The Vulcanite Company (late the Patent Vulcanite Roofing and Asphalte Company) have removed their London offices from 2, New Union-street, to 118, Cannon-street, E.C.——Mr. Robert J. Beale, architect and surveyor, has removed his offices from Broadway House, Westminster, to 17, Old Queen-street, Westminster.

SALFORD IMPROVEMENTS.—On the 21st inst., at the Salford Town Hall, Mr. F. H. Tulloch, C.E., a Local Government Board Inspector, held an inquiry as to the sanction of a loan by the Corporation of 23,562*l*. for the purposes of depots at Agecroft, Carey-street, and Wilburn-street, and also for the purpose of erecting refuse destructors at Carey-street and Wilburn-street. A description of the details of the proposed improvements was given by Mr. J. Corbett, Borough Engineer; Superintendent Hamblett, scavenging department; Mr. Sharpe, architect, and others.

GLASGOW ARCHITECTURAL CRAFTSMEN'S SOCIETY.—On Friday evening, the 21st inst., Mr. Jas. McLeod read a paper to this Society entitled "Prevention of Damp in Walls," Mr. Alex. Davie, I.M., occupying the chair. The lecturer, in a general manner, made reference to the common defects in workmanship which facilitated the penetration of moisture to the interior of a wall, and spoke of the special precautions necessary to prevent dampness from materially affecting the structure. Descriptions of the various preservatives of stone and brick were also given, and samples of stone, demonstrating the effect of some of these, were exhibited.—A visit took place on the Saturday afternoon following to the "Stevenson Memorial Church," of which Mr. J. J. Stevenson is architect, and which was recently opened. This church is a Gothic edifice with Scottish treatment, situated at Belmont Bridge, overlooking the River Kelvin (it has been illustrated in the *Builder*). The interior shows an effective use of white pine finishing, which is very successful. The party were conducted over the building by Mr. George Calvert, clerk of works. A sketching party of the Society intend visiting Birmingham, Worcester, and Lichfield at Easter, under the guidance of Mr. Jas. McKissack.

ROMAN REMAINS IN GREENWICH PARK.—As the result of further excavations carried out by Mr. A. D. Webster, Superintendent of Greenwich Park, assisted by Mr. Herbert Jones, the floor of one of the rooms of a Roman villa, with a considerable portion of the tesserae intact, has been laid bare. A number of Roman coins, decorated wall plaster, and many pieces of pottery have also been discovered. Mr. Webster has had the floor left uncovered and fenced round in order that the public may have an opportunity of viewing these remains.

PROPOSED WIDENING OF LEADENHALL-STREET.—The Corporation are contemplating widening the Aldgate end of Leadenhall-street, which at present is much too narrow for the increasing traffic. The London County Council have been asked to contribute half the cost. The County Council have suggested that the Corporation should do portions of the work as opportunity offers when leases fall in or when premises are being rebuilt. The Corporation at present are not in favour of adopting that course. The improvement would cost between 600,000*l*. and 700,000*l*.

THE GLADSTONE MEMORIAL IN EDINBURGH.—A meeting of the local Committee charged with the erection of a memorial of the late Mr. Gladstone in Edinburgh was held in the City Chambers on the 18th inst., when the site was finally fixed upon. The Town Council, in granting a site for the memorial, resolved upon the removal of the statue of Alexander and Bucephalus to another site. The statue in question occupies the centre of the space between St. Andrew-square and George-street, and it has been arranged to place the Gladstone memorial on a site much nearer and closely adjoining the pavement. A sketch plan of the ground showing the

space to be occupied by the memorial was before the Committee, and the Town Clerk was asked to instruct the sculptor (Mr. Pittendrigh Macgillivray, R.S.A.), now that the site has been determined upon, to proceed with the preparation of designs, it being understood that, when a design is agreed to, a rough model, showing the proportions of the memorial, will be put up on the site. It is understood that in connexion with its erection something like 6,000*l.* may be expended.

THE PROPOSED POLICE-COURT BUILDINGS AT SMETHWICK.—On the 18th inst., at a meeting of Smethwick Town Council, the Watch Committee reported that they had considered the competitive designs for the proposed new police buildings to be erected in Halford-street. Four sets of plans were received, and the Committee recommended that the plans of Mr. J. P. Osborne, at a cost of 12,656*l.*, be accepted. Councillor Forster moved the adoption of the report. Alderman Bowden advocated the acceptance of the plans of Messrs. Wood & Kendrick (9,000*l.* or 10,000*l.*). After further discussion, Councillor Lloyd moved an amendment that the plans of Messrs. Wood & Kendrick be accepted. Councillor Lees seconded the amendment, which, upon being put to the vote, was defeated by 12 votes to 5. Councillor Yates then moved that the plans be referred back to the committee for further consideration, and for the services of a professional assessor to be obtained. Councillor Adams seconded. Nine members voted for the motion and nine against. The mayor gave his casting vote in favour of the motion. Councillor Forster said the committee would simply bring the plans back to the Council again. He maintained that it was unfair to the architects, and he was determined to resign his position. Two other gentlemen expressed similar views. Alderman Bowden said it was a serious business, and he hoped the members would not carry out their intention. The matter then dropped.

STOCKWELL TRAINING COLLEGE.—The British and Foreign School Society have appointed Mr. J. Osborne Smith as their architect for a three-story addition they are about to make to their Training College in Stockwell-road, Brixton. The college was first built upon its present site for the Society in 1859-60, at a total cost of about 17,550*l.*, by Mr. Beck, whose designs, after the Italian style, provided accommodation for 100 students, with a range of practising schools and girls' and infants' schools in the rear. The buildings have since been enlarged to receive 130 resident students, and an increased number of non-resident students.

CITY OF LONDON (STREETS) BILL.—The Select Committee of the House of Commons, of which Mr. Caine is Chairman, have decided that the preamble of the Bill is not proved in so far as it relates to the laying down of mains for water, gas, or electricity. They have ordered the Bill should be reported to the House (with an amending clause for exemption on behalf of the Temple) in respect of its building and sanitary regulations, which provide that precautions shall be taken to protect the public from injury and annoyance during the erection and demolition of buildings, and require that occupiers shall use receptacles after an authorised or prescribed pattern for the out-door collection of their contents by scavengers. As originally introduced by the Corporation, the Bill was intended to obviate the manifold inconveniences and delays and hindrances which attend the frequent and repeated openings of the streets, and to empower the Corporation to frame regulations to secure uniformity of notice, sequence in which the streets should be blocked or taken up, and the fixing of a close time during which the streets should not be opened, any case of proved emergency excepted. It appears that there are as many as nine different bodies which, as matters now stand, have what is in effect a free charter of unrestricted interference with the course of traffic in the metropolis.

BIRMINGHAM SCHOOL BOARD AND THEIR ARCHITECTS.—At the last meeting of the Birmingham School Board, the Sites and Buildings Committee recommended the appointment of Mr. H. T. Buckland as architect at a salary of 600*l.* per annum; of Mr. A. Rowse, as quantity surveyor, at a rate of remuneration of 1½ per cent. on the tenders; of Messrs. Fowler, Pemberton, and Bewlay, as land surveyors, at a commission of ¾ per cent. on the purchase money; the several engagements to date from May 1 next, and to be subject to the general conditions adopted by the Board on January 31 last. Mr. Pentland moved as an amendment that the part of the report concerning the appointments should be referred back to the committee. He feared that if the resolution were carried matters would be worse than under the old system. The resolution, he declared, was, too, in contradistinction to the one passed by the committee, which was that an architect was to be appointed whose duties were primarily to be connected with the erection of new schools or important undertakings. If his amendment was not adopted he should move at the next meeting that the resolution concerning the architect be rescinded. —The amendment did not receive a seconder. The Chairman, in reply, admitted that he had changed his mind. After careful inquiry he came to the conclusion that it would not be to the advantage of the buildings if they were to put up each school in turn for competition. He added that if it was afterwards found that the system did not answer, he should not hesitate to propose that the engagement be terminated by three months' notice. The resolution was carried by eleven votes to two.

NORWICH AND DISTRICT MASTER BUILDERS' ASSOCIATION.—The third annual dinner in connexion with the Norwich and District Master Builders' Association took place on the 20th inst. at the Royal Hotel, Norwich, when about 100 members and friends were present. The President of the Association (Mr. James S. Smith) occupied the chair. After the loyal toasts, the Chairman said that the Association had been in existence for four years, and during most of that time they had had as their President Mr. G. E. Hawes. The members wished to show their appreciation of his services by a small token of esteem and regard. He had great pleasure in presenting to Mr. Hawes, on behalf of the members, a pair of silver candlesticks, and trusted they would remind him and his family of the services which he had rendered the Association. Mr. Hawes, who was received with applause, said that if his work for the Association had benefited the builders of Norwich, that alone would have gratified him without the handsome presentation. He heartily thanked them for their kindness.—The President proposed "Prosperity to the City of Norwich," and spoke of the vast strides made in the city during the past fifty years. Mr. J. A. Porter replied. The Vice-Chairman (Mr. J. Youngs) in proposing "Success to the Architects and Surveyors," spoke of the large blocks of buildings which of late had been erected in the city. To the City Engineer they were greatly indebted for the great progress made in sanitary service. The way in which he had carried out the system of sewers showed that he belonged to the first rank in his profession. He coupled with the toast the names of Messrs. A. C. Havers, T. Inglis Goldie, and A. E. Collins. These gentlemen briefly responded, and Mr. G. E. Hawes then gave "The health of the Merchants of Norwich," the replicants being Messrs. J. L. N. Barnard, R. E. Thorns, and E. Ranson. Mr. E. Ranson proposed "Success to the Norwich and District Master Builders' Association." The President pointed out that the Association was not formed for the purpose of being antagonistic to the men, because in the first rule of their Association it was stated that its objects were conciliation, and that was what they always aimed at. It had proved a hard thing to the builders to provide against accidents, and consequently an insurance association had been started. Several members had joined and he hoped many more would give their names to the secretary. "The health of the Visitors" was proposed by Mr. G. S. Tinkler, and responded to by Messrs. W. Gunton and S. Tungate.

CAPITAL AND LABOUR.

ARBROATH MASONS' WAGES.—The Arbroath master masons have declined to entertain a request by their employees for an increase of wages from 8*d.* to 8½*d.* per hour, for a reduction of the hours of work by one hour on Saturdays in winter, and for an extra ½*d.* per hour on all jobs outside the burgh boundary up to two miles, and 1*d.* beyond that distance. The masters state that the present state of trade does not warrant any change in present arrangements.

LEGAL.

ACTION BY A BUILDER AND CONTRACTOR.

THE case of Lazenby *v.* Pickering came before a Divisional Court of King's Bench, composed of the Lord Chief Justice, Mr. Justice Darling, and Mr. Justice Channell, on the 20th inst.

Mr. Mote said this was an application on behalf of the plaintiff to set aside the award of a special referee on the grounds of its uncertainty in reference to damages and its uncertainty in regard to costs. The plaintiff was a builder and contractor, and the defendant a clay tobacco-pipe manufacturer of West Hartlepool. The plaintiff agreed to build two houses and a shop in West Hartlepool for the defendant according to the plans and specifications of one Macdonald, an architect, since deceased. When he had finished the work plaintiff claimed to be entitled to 65*l.* for extra work. The defendant denied that he was entitled to more than 23*l.* 4*s.* 6*d.*, and counter-claimed for 108*l.* for work which he said the plaintiff had omitted to do. The trial lasted two or three days, and on August 14 last the arbitrator made his award, giving the plaintiff 11*l.* 3*s.*, and also awarding the defendant 83*l.* 15*s.* He added that the above items did not include costs. He was asked whether the 11*l.* 3*s.* was in addition to the 23*l.* 4*s.* 6*d.*, and what he meant by his order as to costs, and he made a second award, in which he awarded the plaintiff 23*l.* 4*s.* 6*d.*, and the defendant 83*l.* 15*s.*, and directed judgment should be entered for the defendant for the balance of 60*l.* 10*s.* It was pointed out to him that it was admitted 23*l.* 4*s.* 6*d.* was due, and inquiry was made of him what had become of his first order in regard to the 11*l.* 3*s.* in his first award. He now filed an affidavit in which he said he had omitted that by mistake, and judgment should be entered for the defendant for 49*l.* odd. It was submitted that the matter ought to be referred to the official referee, so that a proper decision could be arrived at.

Counsel having addressed the Court on behalf of the defendant,

Their Lordships, in the result, declined to set aside the award, as by consent it was agreed that it should be altered to 49*l.* 7*s.* 6*d.*

The plaintiff was, however, awarded the costs of this application.

WOODFORD URBAN DISTRICT COUNCIL *v.* STARK.

THE case of the Woodford Urban District Council *v.* Stark came before a Divisional Court of King's Bench, composed of the Lord Chief Justice of England, Mr. Justice Darling, and Mr. Justice Channell, last week, on the appeal of the District Council from the dismissal of two informations under the Public Health Act, 1875. It appeared that Stark, the respondent, deposited with the Council a notice of his intention to build two houses in the Maybank-road, Woodford, and a block plan, which showed a combined drain for the two houses, was attached to the notice. On the report of the Surveyor, the Council disapproved of the notice and plan on the ground that the proposed drainage was unsatisfactory, and they made an order under Section 25 of the Public Health Act, 1875, directing that there should be a separate drain for each of the houses. This section enacted that it was not lawful in an urban district to erect a house unless covered drains be constructed of such size and materials and at such level and with such fall as on the report of the Surveyor might appear to the Urban Authority to be necessary for the effectual drainage of such house. The district Surveyor discovered on inspection that Stark had constructed a combined drain for the two houses, as shown on the plan, and then the District Council caused two informations to be laid against him, one in respect of each house, the charge against Stark being for building a house without making a covered drain or drains of the size and materials and at such level and with such fall as appeared to the District Council necessary on the report of their Surveyor. The Justices came to the conclusion that the appellants were not entitled to take into consideration anything but size, materials, level, and fall, and that they had no power to order a separate drain for each house, and they accordingly dismissed the informations.

At the conclusion of the arguments the Lord Chief Justice, in giving judgment, said he was of opinion that Section 25 of the Act meant that there should be a separate drain for each house, and remitted the case to the Justices with an intimation that they were not justified in refusing to deal with the case on its merits, because the complaint of the District Council was in respect of the fact that the drain was for more than one house.

Mr. Justice Darling and Mr. Justice Channell concurred, and the appeal was accordingly allowed.

Mr. Macmorran, K.C., and Mr. Naldrett appeared for the appellants, and Mr. C. A. Russell, K.C., Mr. Courthorpe-Munroe, and Mr. W. W. Grantham for the respondent.

PAVING CASE AT TOOTING.

IN the Court of Appeal on the 21st and 22nd insts. the case of The Property Exchange, Ltd., *v.* The Wandsworth Board of Works came on for hearing before the Master of the Rolls and Lords Justices Romer and Mathew. It was an appeal of the company from a decision of a Divisional Court, deciding the question raised in the special case in favour of the respondents, the Mayor and Corporation of the Borough of Wandsworth, who were the successors of the Board of Works for that district. The special case was stated by a Metropolitan police magistrate, who had ordered the company to pay to the respondents 69*l.* 11*s.* 3*d.*, the amount of expenses apportioned to them for paving the north side of Totterdown-street, Tooting. The appellants denied liability on the ground that the street in question was not a new street. It seemed that Totterdown-street had for many years prior to 1855 existed as a road 16 ft. wide, and was used for wheel and foot traffic, and that since that date it had been regarded as a public thoroughfare, and been repaired by the Local Board. On the south side was a row of houses built some seventy-five years ago. In 1898 the roadway was widened to 40 ft., and a new street, known as St. Cyprian-street, was made, running into Totterdown from the north, and the lands on the north side of Totterdown were laid out for building. The company owned premises in St. Cyprian-street, and the road having been paved, the charge was made on the company, as being one of the frontagers whose property abutted on the highway. The appellants contended that the former 16 ft. of roadway was an old street, and therefore its character was not altered by reason of the fact that a strip of land on one side had been added on to widen it. They submitted, moreover, that the apportionment was bad, because the owners of property on the other side of the road had not been made contributories. The magistrate held that the portion of the roadway ordered to be paved was a new

street, and that the resolution and apportionment of the Board was valid. The Divisional Court (the Lord Chief Justice and Mr. Justice Lawrance) upheld that decision, expressing an opinion that the strip of land, 24 ft. wide, added to the roadway in 1898 was a "new street," and that the owners of property on the north side only were, therefore, liable to contribute to the expenses of paving it. From that decision the company appealed.

Mr. Richards, for the appellants, contended that, having regard to the fact that 16 ft. of the roadway was an old street, the whole must be treated as an old street, and further, that as regarded the new portion of the roadway, the frontagers on both sides should have been charged.

Mr. Mattinson, K.C., and Mr. J. C. Earle, for the respondents, were not called on, their Lordships affirming the decision of the Divisional Court and dismissing the appeal with costs.

ENDANGERING THE STABILITY OF HOGARTH HOUSE, CHISWICK.

THE case of Shipway *v.* Percy, came before Mr. Justice Buckley in the Chancery Division on the 24th and 25th insts. It was an action in which the plaintiff claimed an injunction restraining the defendant, his agents, and servants from digging or getting any gravel, sand, or soil from and making any pit in the land adjoining or adjacent to the plaintiff's house in such a way as to damage or injure it, and from doing anything which would deprive the plaintiff's house of support from the adjoining or adjacent land; a mandatory injunction ordering the defendant to fill up the said pit or to restore the land to the condition it was in before the pit was dug. The plaintiff also claimed damages.

It appeared that the plaintiff was the owner of Hogarth House, Hogarth-lane, Chiswick, having purchased the premises in January, 1902. The house was an ancient house, and the plaintiff alleged that he was entitled to have the same supported by the land adjacent thereto. Plaintiff's case was that the defendant had excavated a large pit on the land adjacent to the plaintiff's house and premises, and had taken away and removed a large quantity of sand and gravel, and had withdrawn the support to which the plaintiff alleged his house and premises were entitled. The defendant had excavated the pit to a depth of more than 20 ft., and water under the land on which the plaintiff's house was built, and the adjoining land, was drained into the pit. There was at the commencement of the action considerable depth of water in the pit, and the defendant, besides taking away and removing sand by digging, was dredging in the pit for and removing sand. The plaintiff alleged that by the action of the defendant the stability of his house was seriously endangered.

The defendant by his defence stated that so long ago as December, 1900, he commenced to dig and carry away sand and gravel from his land adjoining the plaintiff's house, and in so doing excavated a pit to the depth of 18 ft. In no place did such excavation reach a nearer point to any part of the plaintiff's house than 10 ft., and the strip of solid earth so left afforded an adequate support to the plaintiff's land and house. There had been no subsidence of the land or house or any damage done by reason of such excavations. The defendant alleged that as he proceeded with his excavations he kept filling in the pit from the side nearest to the plaintiff's house with gravel soil and thereby formed a sound and consolidated road of the width at the surface of from 28 ft. to 30 ft. from the house with a slope extending outwards from the top edge of the pit measuring in width at the bottom of the slope 50 ft. from the house. This formed a solid road, along which the defendant's carts passed in order to tip earth into the excavation. The defendant denied that there had been any damage of water being drained from under the land on which the plaintiff's house was built on the adjoining land into the pit, such as to interfere with or endanger the stability of the plaintiff's house. At the depth of about 17 ft. from the surface, and from thence for another 4 ft. or 5 ft. vertical to the stratum of hard clay, which underlies it, water was found, mixed with sand, gravel, and ballast, in the proportion of about one-third sand and gravel to two-thirds ballast. Defendant said that at the commencement of the action he was removing the sand from this wet strata by dredging, and the nearest point at which this was being carried on to the plaintiff's house was upwards of 100 ft. Defendant denied that the water percolated through plaintiff's land to his pit carrying with it the sand, thereby imperilling the stability of the house. The defendant further alleged that the plaintiff's house, though old, would not in any way be disturbed by his operations. The reply was a general denial of the allegations in the statement of defence.

Mr. Astbury, K.C., and Mr. R. Neville appeared for the plaintiff; and Mr. H. Terrell, K.C., and Mr. Manby for the defendant.

On behalf of the plaintiff, expert geologists stated that there was silt under the soil which ran into the pit.

Mr. Arthur Ramsden, engineer and surveyor to the Chiswick Urban District Council, said he had inspected the pit on the defendants' land and in his opinion the buildings around the pit, including the plaintiff's house, were being endangered by the defendant's dredging operations. In his view running sand was under the soil of the plaintiff's house and drifted toward the pit, endangering the plaintiff's house.

This was the plaintiff's case.

Mr. Terrell submitted that there was no case for the defendant to answer.

His Lordship, however, thought there was evidence that running sand existed and that the defendant had better call his witnesses.

Defendant was then called. He said that he excavated his land near Hogarth House to a depth of 17 ft. when he found water. He then dredged for 6 ft. through sand and found clay. After he had removed all the sand, he did not see that any more sand percolated through. As he excavated, so he filled in with all kinds of rubbish, mostly clay, however. He hoped to have the pit filled up within nine or twelve months.

Other evidence having been given, his lordship, in giving judgment, said the question he had to determine was whether the operations of the defendant had resulted in a movement of the soil from under Hogarth House so as to diminish the support to which Hogarth House was entitled from the adjacent land. From the evidence, he arrived at the conclusion that it had. From the whole of the evidence he found that there had been a movement, and that there was danger, and considerable danger—real danger, not fanciful—if those operations of the defendant continued. Under the circumstances, he granted an injunction against the defendant, with costs.

ANCIENT LIGHT DISPUTE AT PORTSMOUTH.

MR. JUSTICE JOYCE, in the Chancery Division on the 24th inst., delivered judgment in the case of Easton *v.* Isted, an action brought by the plaintiff, the owner of the Golden Fleece Hotel at Portsmouth, to restrain the defendant from obstructing an alleged ancient light in his building. The facts sufficiently appear from the following judgment.

Mr. Justice Joyce, in delivering judgment, said that the parties were next-door neighbours in Commercial-road, Portsmouth, the plaintiff being the owner of the Golden Fleece Hotel, the action being brought in respect of the obstruction, or alleged obstruction, by the defendant of the access of light from the yard at the back of his premises to a window or skylight of the hotel on the northern side. The plaintiff complained of a wall erected by the defendant so close to the line of boundary as to obscure the access of light to the window or skylight in question. The plaintiff alleged that this skylight was an ancient light, and that he was entitled to an unobstructed access of light, which had been enjoyed for over twenty years without interruption. The defendant denied this allegation. It appeared that the skylight originally formed the sloping top of a conservatory erected by the plaintiff's father in 1873 on the northern side of the hotel, and abutting on the defendant's premises. This skylight having been in existence since 1873 was what was called an ancient light, unless the access of light thereto over the defendant's property was enjoyed by some consent or agreement expressly made by deed or in writing. On June 13, 1873, in respect of the construction of the conservatory, an agreement was entered into by the then respective owners of the property, by which the plaintiff's father agreed to pay to Isted 1s. per annum as an acknowledgment for allowing the windows in his conservatory to open on to and overlook Isted's property, and the plaintiff's father also agreed to close the same when required to do so. At any rate, down to the year 1888 the right to the access of light over the defendant's property to the plaintiff's window or skylight was enjoyed by some consent or agreement expressly made or given for the purpose by deed or in writing. It appeared to his lordship that the plaintiff had not enjoyed the access of light to the window or skylight in question for the full statutory period of twenty years, and the action must be dismissed with costs.

RECENT PATENTS:

ABSTRACTS OF PATENTED INVENTIONS.

20,921-2.—APPLIANCES FOR SANITARY WARE, CLOSETS, &c.: *M. J. Adams*.—A jointing for sanitary ware and metal goods, available for use in the fixing of waste or supply pipes in lavatories, and so on, consists of an indent which is fashioned around the outside of the pottery ware, and of a band of metal or some wire wrapping which is applied to the indent. The enlarged sockets are secured to the wrapping with solder or by other means. (20,922) In this contrivance, which is described as being available also for closets after the "multiple" kind for use in schools, institutions, &c., the inventor discards the customary flushing-horn and adapts in its stead a pipe which is fashioned in one piece with the basin, and is turned downwards so that it shall dip into the flushing-pipe.

20,948.—COATING OF WIRE FOR STAPLES AND SIMILAR GOODS: *G. E. Parker*.—A coating for the wire (which, it is claimed, will suffer neither damage nor removal when the coated wire is made into articles) is compounded of copal varnish, linseed oil, bone-black, and turpentine. The wire coated therewith is dried in a gas-stove or oven. The wire is extended from a reel around two pulleys, thus beneath a pulley in the coating-bath, over a fibrous wiper, and thence to the heating chamber, from which it is coiled upon a reel.

20,976.—REMOVAL OF SOIL, STONES, &c.: *C. F. W. A. Oetling*.—The material can be cast from a shovel or fork which is worked with compressed air, steam, &c., some distance along the path of projection. In one form a rod sliding through a sleeve pivoted on to the portable framework carries the shovel or fork at its one end, while its other end is caused to move between curved guides, being linked to the end of a piston-rod in a cylinder. The cylinder may otherwise be pivoted in the frame, the shovel being then mounted upon the piston-rod. For a throw backwards the piston-rod is pivoted on to an axis, and the shovel is mounted upon the end of the cylinder that turns in curved guides. Or the shovel may be mounted upon the piston-rod, an additional cylinder being employed to swing the cylinder.

20,977.—IMPROVEMENTS IN WHEELBARROWS: *V. A. Gates and C. A. Gates*.—The sloped portions of the front and back of the barrow are taken by the bevelled sloping pieces that constitute the sides, and stiffened supports are provided. To each of the sides are attached a handle and one member of the wheel fork. The parts are bolted together when the back and front have been adjusted with the sloping sides. An extension of the back support constitutes a foot for the barrow.

20,997.—MEANS OF STORING AND PRESERVING DRAWINGS, MAPS, SKETCHES, &c.: *M. Edmondson and E. Hill*.—The appliance consists of a bar having hanging plates fitted with eyelets, and a back of cloth or similar fabric, and of another bar with a front of cloth which can be hooked on to or otherwise secured flush with the former bar. The sheets are taken by hooks, and there are adjustable holding-pieces which will move parallel-wise with the back of the former bar which holds the pieces up. When they are not required for use the hooks are to be laid parallel-wise with the bars and wrapped in the cloth covers.

21,019.—A WRENCH: *C. B. Ketchum and G. W. Schwoob*.—The inventors contrive that the handle, which is affixed to the shank with a hinge-pin, can be secured in different positions by means of spring catches that engage with notches. A pawl, which is pressed against by the teeth of a spring maintains the moveable jaw in its fixed position for gripping purposes.

21,023.—DREDGING APPARATUS: *C. Bonger*.—The object of the invention is to provide for an alternate pumping, from two boats, of the dredging-pump without a stopping of the pump; the two branches of the suction-pipe are regulated with a disc-valve, the openings which register with the two branches are placed at such a distance apart from one another that when the valve is turned one of the suction-inlets becomes partly opened before the other has been quite closed; a handle upon a middle spindle serves for an adjustment of the valve which can be locked in position with a nut and handle.

21,047.—A SAFETY APPLIANCE FOR KEYHOLES: *A. M. Young*.—Grooves or projections upon the lock-casing take a staple which protects the keyhole and can be secured in the position desired, a dovetailed recess cut in the staple engages with a slide affixed to the casing, a slit in the staple engages with a pin upon the slide so that the former shall not be withdrawn, and an engagement set up by the bolt of an auxiliary lock carried by the main lock maintains the staple in the covering position.

21,059.—ATTACHMENTS FOR ASPHALT PAVEMENT: *H. Beck*.—The inventor devises plates or slabs of asphalt, into which he inserts keys or wedges formed of earthenware, stone, or some similar material, and which are to be united, with mortar, to the foundation of concrete.

21,061.—AN ANTI-FOULING OR ANTI-CORROSIVE PAINT: *W. Ward*.—A coating for submerged surfaces is thus applied: An inner coating, compounded of lime, plaster of Paris, zinc oxide, iron oxide, resin, Stockholm tar or pitch, pine varnish or oil, and other ingredients, mixed with spirit and turpentine, and prepared with heat, is laid upon the wet surface, and will then afford a dry surface upon which a second coating is laid. The latter coat is made up of several specified anti-septical substances, to which, for wooden structures, some mineral green should be added.

21,123.—IMPROVEMENTS IN SINKS: *C. Flood*.—A pedestal that can be built into the wall by means of projections from the former, contains within it a gutter into which the sink will discharge its contents, and a cover is fitted in the side of the channel or gutter which rests against the wall.

21,139.—JOINTS AND COUPLINGS FOR PIPES: *R. A. Lowe and H. Line*.—For joining leaden or other soft-metal pipes, their ends are inserted through brass, gun-metal or similar ferrules which will serve as flanges upon the pipe ends; the parts are to be then drawn together, either directly or with a packing-ring between them, with a screwed nut.

21,189.—APPARATUS FOR REGULATING THE FLOW OF SEWAGE, &c.: *E. Dodd*.—The inventor seeks to

afford means for automatically preventing waste of compensation water flowing into a river from a reservoir, preventing storm water from flowing in excess into a sewer, and controlling the amount of sewage that passes from one sewer into another. He places one part of the sewer in communication with a chamber between which and a larger container is a valve-gate; at the side of the second container is a weir over which the sewage pours, and so through a conduit into the other part of the sewer; and the same container is placed in communication with a smaller chamber that contains a float joined to a lever which works a pilot-valve. Flow of water, under pressure, to a second valve is regulated by the pilot-valve, which also regulates the shutting and closing of the valve-gate. The sewage in the chambers rises to move the float and so to shut the valve-gate if an excess of sewage flows over the weir, whereupon it rises in the first-named container, which has a submerged opening, into another smaller receiver, of which the overflow pipe leads into a watercourse. An inspection chamber is provided and a valve-gate is fitted between the conduit and the first-named chamber.

21,194.—FLUSHING APPARATUS: *W. E. Mason and H. E. Mason.*—An air-pipe joins an air-exhaustion nozzle in the flushing-pipe to the crown of the siphon, whilst the crown is also connected to a bent pipe in the flushing-cistern, its lower end being closed, normally, with a float-valve. With the flush air is exhausted from the crown, and the ensuing discharge from the basin will continue until the level in the basin has fallen below that of the siphon-inlet, or until the level in the flushing-cistern becomes low enough to let the float descend and so admit air into the bent pipe.

21,217.—AN ELECTRICAL CURRENT REGULATOR: *Erie Exploration Co.*—Intermittent current is supplied with longer or shorter breaks, so as to control the supply to lights, motors, heaters, and other translators. In one adaptation a set of insulated segments are carried by a disc. Upon a motor-driven shaft is another disc, having a brush which rubs the segments. Connectors are arranged upon the first-named disc in such a manner that circuit will be broken when the brush rubs one segment, and will be made when it rubs another segment, the connectors being adjusted for the connexion of some of the discs and a variation of the relative times of break and make. In another shape, a motor-driven drum is provided with contact strips, and the brush can be adjusted lengthwise.

21,243.—MEANS OF CLEANSING DUST-LADEN AIR: *L. Rössler.*—A vessel that holds a centrifugal fan with paddles partly immersed in water receives dust-laden air from a factory or workshop, the fan breaks up the dust-flakes which the paddles will moisten at the same time. The particles either drop into the water or go through a sieve, to be separated in the bends and amongst the baffles of the outlet pipe.

21,275.—APPLIANCE FOR WINDOW-FASTENERS: *F. R. Taylor.*—In this contrivance for securing window-sashes when closed or opened, and which can be applied to each side of the window, a plate having lugs is affixed to one sash with screws through the lugs and the plate, in the latter are screw-threaded holes with which a thumb or other screw will engage, the thumb being inserted through a plate upon the other sash.

21,276.—SPIGOT-AND-SOCKET JOINTS FOR PIPES: *T. Robinson.*—As an improvement of No. 7,917 of 1899, the inventor fits a flanged collar upon the outlet of a closet-basin, or any similar vessel, and adapts the collar so as to take a flanged metallic pipe. A flanged disc upon the floor sustains the collar, which, moreover, may be flanged so that it can be bolted on to a flange upon the outlet.

21,291.—TABLETS OR PANELS FOR PAINTERS' PURPOSES: *A. Rincklake.*—The tablets are made up of wire tissue or pierced plates, which are fixed between two layers, or beneath one layer, of canvas with some hardening adhesive, such as stiff rye-paste mixed with turpentine. The canvas thus secured to wire gauze has the adhesive for its coating, and when it is laid on both sides of the gauze the edge can be turned up for strengthening purposes.

21,340.—A ROAD-SCRAPING MACHINE: *E. Shield.* Shafts which slide in guiding pieces attached to the frame carry a metal clamp in which a squeegee is affixed. The squeegee is forced against the road surface by means of springs that work between forks upon a carrier and collars upon those shafts, with the lowering of the carriers by means of a pivoted lever; a quadrant and a pin upon a lever at the side serve for locking the pivoted lever in any position required. The machine, mounted upon wheels, can be drawn by manual or other power, and the squeegee can be made up of stepped parts.

21,398.—A BALL LIFT-VALVE: *A. D. Curling.*—The ball-lift valve, specified in No. 24,224 of 1897, has a split ring which is put around the ball in order that when the valve is opened the noise may be lessened. A ring screwed into the casing controls the movement upwards of the ring, which has a serrated lower edging.

21,405.—A METHOD OF DISINFECTING BUILDINGS: *F. M. Pringle.*—As a means of purifying and disinfecting air-spaces beneath the floors of buildings, a perforated earthenware or glass vessel is laid upon a flange which fits with cleats that are affixed to the floor; the disinfectant material is deposited in a bucket, for the handling of which a lid and covering-board are made for the vessel.

MEETINGS.

WEDNESDAY, APRIL 2.

Builders' Foremen and Clerks of Works' Institution.—Ordinary meeting of the members. 8 p.m.

Edinburgh Architectural Association.—Mr. James Millar on "The Glasgow International Exhibition of 1901," illustrated. 8 p.m.

FRIDAY, APRIL 4.

Sanitary Institute (Lectures for Sanitary Officers).—Mr. J. E. Worth on "Sewerage." 7 p.m.

Institution of Mechanical Engineers.—The four papers on "The Fencing of Machinery" will be further discussed. 8 p.m.

SATURDAY, APRIL 5

Sanitary Institute (Demonstrations for Sanitary Officers).—Inspection at the Sewage Outfall Works, Barking. 3 p.m.

Edinburgh Architectural Association.—Visit to the Lander Technical School, Dunfermline.

Incorporated Association of Municipal and County Engineers.—Midland district meeting to be held at Birmingham.

TUESDAY, APRIL 8.

Society of Arts (Applied Art Section).—Professor Beresford Pite on "Street Architecture." 8 p.m.

WEDNESDAY, APRIL 16.

Society of Arts.—Ordinary meeting. Mr. J. Bridges Lee, M.A., on "Photographic Surveying." 8 p.m.

THURSDAY, APRIL 17.

Society of Arts (Indian Section).—Mr. Sidney Preston, A.M.Inst.C.E., on "Recent Developments in Punjab Irrigation." 4.30 p.m.

WEDNESDAY, APRIL 30.

Society of Arts.—Ordinary meeting. Mr. Edward T. Scammell on "The Timber Resources of the Australian Commonwealth." 8 p.m.

SOME RECENT SALES OF PROPERTY:

ESTATE EXCHANGE REPORT.

March 12.—by VICTOR VAUGHAN (at Finchley).
Finchley.—Fallow Court-av., 30 plots of land, f.... £1,830
Eton-av., two plots of building land, f. 120

March 13.—By DYER, SON, & HILTON (on Premises).
Lee.—9, Marlborough-rd., u.t. 50½ yrs., g.r. 3*l.*, p. 485

By W. & S. FREEMAN (Aldridge's) (on premises).
Mayfair.—7, Curzon-st., with yard, coach-houses, and stabling in rear, area 92,160 ft.; also the Red Lion p.-h. in Clarges-st., beneficial lease for 9½ yrs., y.r. 1,500*l.*, including goodwill of East & Co. 1,000
5 and 5a, Shepherd-st., with yard and stabling in rear, f., y.r. 80*l.*; Carrington-st., yard, stabling, and other premises, beneficial lease for two years, y.r. 275*l.* 29,150

March 14.—By SIM & RANDALL.
Ilford, Essex.—36, Mansfield-rd., u.t. 995 yrs., g.r. 13*l.* 13s., y.r. 50*l.* 515
Grosvenor-rd., f.g.r. 13*l.* 19s. 6d., reversion in 994 yrs. 355
Forest Gate.—899, Romford-rd. (S), u.t. 74 yrs., g.r. 5*l.* 10s., y.r. 80*l.* 1,120

By WHITE, DRUCE, & BROWN.
Cavendish-sq.—108, Harley-st., and 2, Devonshire Mews East, u.t. 11½ yrs., g.r. 130*l.*, e.r. 430*l.* .. 1,700
Marylebone.—12, Circus-st. (S), f., y.r. 80*l.* 1,900

March 17.—BRODIE, TIMBS, & CO.
Hampstead.—West End-lane, The Cedars, and The Elms, area 1 a. 0 r. 14 p., f., p. 7,350
8, Strathray-gdns., u.t. 79 yrs., g.r. 20*l.*, p. 3,100

By FLEURET, SONS, & ADAMS.
Ipswich.—Tavern-st., the Great White Horse Hotel, f., y.r. 400*l.* 10s. to Midsummer, 1904, and 452*l.* 10s. to 1911 14,500

By A. E. GREEN & CO.
Bethnal Green.—Driffield-rd., f.g.r.'s 36*l.*, reversion in 63 yrs. 880

By WILKINSON, SON, & WELCH (at Brighton).
Brighton.—27 to 34, Jubilee-st., with stores, stabling, &c., in rear, f., y.r. 150*l.* 3,200
14, Buxton-rd., f., p. 700
Hove, Sussex.—23 to 29 (odd), Goldstone-rd., f., y.r. 100*l.* 1,985

March 18.—By DAVID BURNETT & CO.
Rotherhithe.—Dilston-grove, i.g.r.'s 203*l.* 10s., u.t. 48½ yrs., g.r. 80*l.* 2,000
Clerkenwell.—5, Attneave-st., u.t. 13¾ yrs., g.r. 10*l.*, e.r. 50*l.* 230
Hawley, Kent.—Mill-rd., two plots of building land, f. 110

By DEBENHAM, TEWSON, & CO.
St. Luke's.—50 and 52, Goswell-rd. (S), u.t. 53 yrs., g.r. 60*l.*, y.r. 270*l.* 3,350

By NOTLEY & CO.
Balham.—40, Nightingale-lane, area nearly 1 a., f., p. 3,500

By RUSHWORTH & STEVENS.
Mile End.—32 and 33, St. Peter's-rd., u.t. 28 yrs., g.r. 6*l.* 16s., y.r. 64*l.* 655
Thornton Heath, Surrey.—30 and 32, St. Paul's-rd., f., p. 775

By E. HOLSWORTH (at Wood Green).
Wood Green.—343 and 345, High-rd.; also Peel's Horticultural Works, f., e.r. 115*l.* 1,510
25, Truro-rd., f., e.r. 25*l.* 360

By GEORGE LOVEITT & SONS (at Coventry).
Coventry, Warwick.—9 and 10, Burgess (S), area 875 yds., f., p. 2,750

March 19.—By CRASKE & SONS.
Notting Hill.—44, Addison-rd. (S.), u.t. 41 yrs., g.r. 10*l.*, e.r. 45*l.* 405

By FAREBROTHER, ELLIS & CO.
Vauxhall.—Vauxhall-walk, a freehold building site, area 25,400 ft. £6,000
Lambeth.—Albert Embankment, f.g.r. 230*l.*, reversion in 61 yrs. 6,600

By FOSTER & CRANFIELD.
City of London.—6, 7, and 8, Temple-lane, u.t. 13 yrs., g.r. 105*l.*, w.r. 260*l.* 13s. 300
Stoke Newington.—48, Mildmay-grove, u.t. 49 yrs., g.r. 7*l.*, e.r. 50*l.* 430
Kingsland.—24, Tottenham-rd., u.t. 17¾ yrs., g.r. 5*l.*, y.r. 48*l.* 300
74, Buckingham-rd., u.t. 22¾ yrs., g.r. 4*l.*, q.r. 30*l.* 210
Hoxton.—128, Bridport-pl. (S), u.t. 30 yrs. g.r. 6*l.* 6s., y.r. 50*l.* 480

By KNIGHT, FRANK, & RUTLEY.
Strand.—Villiers-st., f.g.r. 150*l.*, reversion in 40 yrs. 5,100

By MATCH & CO.
Pimlico.—15, 16, and 17, Hindon-st., u.t. 42¾ yrs., g.r. 13*l.* 15s., w.r. 223*l.* 16s. 1,645
43, Hindon-st., a profit rental of 15*l.* for 18 yrs. . 130
Brixton.—1, Branksome-rd., u.t. 65 yrs., g.r. 5*l.*, y.r. 30*l.* 380

By E. W. RICHARDSON & SON.
Shoreditch.—87, 89, and 91, Leonard-st., and 6, Ravey-st. (S), with workshop and stable in rear, u.t. 46 yrs., g.r. 89*l.*, y.r. 265*l.* 2s. 1,460
Shepherd's Bush.—22, Caxton-rd., f., y.r. 28*l.* 510
18, Macfarlane-rd., u.t. 72 yrs., g.r. 5*l.*, y.r. 28*l.* 330
4, Ellingham-rd., u.t. 75 yrs., g.r. 5*l.*, y.r. 28*l.* . 390

By STANLEY PARKES & BROWN.
Hornsey.—89, 91, and 93, Turnpike-lane (S), u.t. 80 yrs., g.r. 30*l.*, y.r. 155*l.* 1,990

By RANDALL, COX, & BAKER.
Edgware, Middx.—Bruckley Hill, Newlands Grange and 5 a. 1 r. 24 p., f., p. 1,600

By DOUGLAS YOUNG & CO.
Wimbledon.—Griffiths-rd., f.g.r.'s 34*l.* 10s., reversion in 95 yrs. 850
Chelsea.—29, Fernshaw-rd., u.t. 59 yrs. g.r. 10*l.*, y.r. 35*l.* 360
Harlesden.—23, Fortune Gate-rd., u.t. 87 yrs., g.r. 6*l.*, y.r. 32*l.* 275

By J. TAYLOR & SON (at Louth).
Legbourne Abbey, Linca.—The Legbourne Abbey Estate, 109 a. 3 r. 7 p., f., p. 4,840

March 20.—By BRIANT & SON.
Lambeth.—41 and 43, Saville-pl., f., w.r. 78*l.* 765
Peckham.—38, Elm-grove, u.t. 24 yrs., g.r. 7*l.*, y.r. 40*l.* 250
131, Asylum-rd., f., y.r. 38*l.* 465

By CANE & CO.
Staplehurst, Kent.—Duckhurst Farm, 27 a. 0 r. 30 p., f., p. 1,300
Dolgwili, Carmarthen.—The Dolgwili Brick Works, area 3 a., u.t. 23½ yrs., y.r. 21*l.* 12s. 6d. (as a going concern) 5,500
Dulwich.—Dunstans-rd., &c., the Dawson's Hill Building Estate, 5 a., with two houses thereon, y.r. 34*l.*, part f. and part u.t. 93 yrs., g.r. 41*l.*, p. 3,460
318, Lordship-lane, u.t. 92 yrs., g.r. 7*l.* 5s., e.r. 42*l.* 350
213 and 215, Friern-rd., f., y.r. 78*l.* ..... — 1,100

By CHESTERTON & SONS.
Kensington.—95 and 97, Kensington High-st. (S), u.t. 48 yrs., g.r. 201*l.*, y.r. 1,050*l.* 16,300

By C. RAWLEY CROSS & CO.
Kensington.—37 and 38, Addison-rd. North, u.t. 40½ yrs., g.r. 20*l.*, y.r. 92*l.* 985

By HAMPTON & SONS.
Fulham.—47, Vanstone-pl. (S.), f., y.r. 63*l.* 2,200
637, Fulham-rd. (S.), area 10,740 ft., f. y.r. 105*l.* 3,200
4 to 16 (even), Jerden-pl. (S.), area 6,000 ft., c., y.r. 340*l.* 12s. 5,890
35 and 37, North End-rd. (including The Live and Let Live B.-H.) and 1, Portland-st., u.t. 8½ yrs., g.r. 10*l.*, y.r. 102*l.* 475
Hammersmith.—72, Black Lion-lane, u.t. 12½ yrs., g.r. 4*l.*, y.r. 26*l.* 150

By W. MARTIN & CO.
Dulwich.—Calton-rd., Velindre, u.t. 80 yrs., g.r. 6*l.*, e.r. 60*l.* 710
22, Hillsboro'-rd., u.t. 62 yrs., g.r. 7*l.* 10s., e.r. 42*l.* 390

By MUSKETT & SONS.
Wood Green.—Alexandra Pk.-rd., Clovelly, f., e.r. 52*l.* 600
Alexandra Pk.-rd., four freehold building plots. 360
Bowes Park.—Marlboro'-rd., a freehold building plot 110
Herne Bay.—The Broadway, four freehold building plots 740
Salisbury Drive, six freehold building plots.... 150

By NEWBON, EDWARDS, & SHEPHARD.
Stoke Newington.—High-st., one-third share of f.g.r.'s 350*l.*, reversion in 25 yrs. 3,000
Norwood.—Farquhar-rd., f.g.r.'s 113*l.*, reversion in 78 yrs. 2,755
Balls Pond.—4, Canterbury-rd., u.t. 49½ yrs., g.r. 3*l.* 10s., y.r. 30*l.* 335
Hoxton.—29 to 35 (odd), Coleman-st., u.t. 25 yrs., g.r. 85*l.* 4s., y.r. 132*l.* 910
Caledonian-rd.—35, Freeling-st., y.r. 28*l.*; also i.g.r. 13*l.* 13s., u.t. 49½ yrs., g.r. 20*l.* 160
Hornsey.—99 and 101, Campsbourne-rd., u.t. 70 yrs., g.r. 14*l.* 14s., w.r. 58*l.* 10s. 255
Highbury.—6, Northolme-rd., u.t. 80½ yrs., g.r. 8*l.* 10s., y.r. 55*l.* 605
Islington.—Essex-rd. (Essex Arms b.-h., &c.), f.g.r.'s 32*l.*, reversion in 42½ yrs. 1,000
Holloway.—65, Parkhurst-rd., u.t. 21 yrs., g.r. 10*l.*, e.r. 77*l.* 470

By STIMSON & SONS.
Soho.—4, Peter-st., f., y.r. 85*l.* 1,900
Fulham.—61, Parsons Green-lane, area 9,800 ft., f., p. 1,000
Brixton.—34, Grove-rd., u.t. 22 yrs., g.r. 6*l.*, y.r. 50*l.* 300
Woolwich, Kent.—44, Woolwich-common, f., y.r. 30*l.* 550
Plumstead, Kent.—13 and 15, Plumstead Common-rd.; also Park Cottage, u.t. 27 yrs., g.r. 5*l.* 11s., w.r. 88*l.* 8s. 450
191 to 197 (odd), Villas-rd., u.t. 23¾ yrs., g.r. 8*l.*, w.r. 82*l.* 8s. 510
114 and 116, High-st. (s), f., e.r. 80*l.* (including goodwills) 1,600

Doddinghurst, Essex.—Bannister's Farm, 31 a. 2 r. 36 p., f., p.	£1,900
By Messrs. TROLLOPE.	
Pimlico.—258 to 266 (even), Vauxhall Bridge-rd., f., y.r. 412*l.*	8,259
By J. A. & W. THARP.	
Leytonstone.—42, Leyspring-rd., u.t. 77¼ yrs., g.r. 6*l.*, e.r. 32*l.*	310
By FULLER, MOON, & FULLER (at Croydon).	
Croydon.—Church-st., site of Edwards' Tannery, area 12,000 ft., f., p.	1,400
49 to 57 (odd), Borough Hill, f., w.r. 91*l.*	1,100
March 21.—By BLAKE & CARPENTER.	
Croydon.—42, Croham Pk.-avenue, u.t. 96 yrs., g.r. 12*l.* 10s., e.r. 150*l.*	2,800
By DAVID J. CHATTELL.	
Notting Hill.—Phœnix-pl., f.g.r. 22*l.*, reversion in 41 yrs.	690
Addison-rd. North, f.g.r.'s 18*l.*, reversion in 37 yrs.	755
Prince's-rd., the Prince of Wales Hotel, f.g.r. 35*l.*, reversion in 41 yrs.	2,600
Prince's-rd., f.g.r.'s 45*l.*, reversion in 41 yrs.	1,160
North Woolwich.—Albert-rd., l.g.r. 44*l.*, u.t. 30¾ yrs., g.r. 18*l.* 18s., with reversion	480
Lambeth.—Saville-pl., c.g.r. 11*l.* 5s., reversion in 22½ yrs.	300
14, 16, and 18, Saville-pl., c., w.r. 89*l.* 14s.	610
31 to 36, Lollard-st., c., w.r. 202*l.* 10s.	1,230
31, Gundulf-st., c., w.r. 20*l.* 18s.	215
24, Distin-st. (dairy, &c.), c., y.r. 48*l.*	740
110 and 111, Ethelred-st., c., w.r. 62*l.* 8s.	460
33, Royal-st., c., w.r. 33*l.* 16s.	365
3, 4, 8 to 14, 17 to 22, Saunder's-st., and 4, Saunder's-ct., u.t. 63 yrs., g.r. 4*l.* 12s., w.r. 418*l.* 12s.	600
By DREW & SON.	
Richmond.—27 and 29, Manor-rd., u.t. 63 yrs., g.r. 2*l.*, y.r. 58*l.*	395
By GREEN & SON.	
South Woodford.—Chigwell-rd., Normanhurst, f., y.r. 52*l.* 10s.	775
Wapping.—35, Great Hermitage-st., area 650 ft., f., w.r. 36*l.* 8s.	380
By HIGGINS & SON.	
St. John's Wood.—14, Acacia-rd., u.t. 32½ yrs., g.r. 10*l.*, e.r. 65*l.*	675
Regent's Park.—125, Albany-st., u.t. 13¾ yrs., g.r. 15*l.*, y.r. 60*l.*	300
By JONES, LANG, & CO.	
Southwark.—134 and 138, Southwark-st. (warehouses), f., y.r. 250*l.*	3,350
By SCOBELL & LAKE.	
Houndsditch.—33, Harrow-alley (warehouse, &c.), u.t. 83 yrs., g.r. 35*l.*, y.r. 200*l.*	1,550
By A. J. SHEFFIELD.	
Limehouse.—37 to 57 (odd), Northey-st., u.t. 41 yrs., g.r. 42*l.* 12s., w.r. 301*l.* 12s.	1,600
Holloway.—3, Tremlett-grove, u.t. 72 yrs., g.r. 7*l.* 7s., y.r. 45*l.*	475
By WATTS & WELLS.	
Chiswick.—56, Homefield-rd., u.t. 88 yrs., g.r. 9*l.*, y.r. 45*l.*	555

Contractions used in these lists.—F.g.r. for freehold ground-rent; gdns. for gardens; l.g.r. for leasehold ground-rent; i.g.r. for improved ground-rent; g.r. for ground-rent; r. for rent; f. for freehold; c. for copyhold; l. for leasehold; e. for estimated rental; u.t. for unexpired term; p.a. for per annum; yrs. for years; st. for street; rd. for road; sq. for square; pl. for place; ter. for terrace; cres. for crescent; av. for avenue; yd. for yard.

PRICES CURRENT OF MATERIALS.

*** Our aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

BRICKS, &c.

	£ s. d.	
Hard Stocks	1 11 6	per 1,000 alongside, in river.
Rough Stocks and Grizzles	1 9 6	" " "
Facing Stocks	2 12 0	" " "
Shippers	2 5 0	" " "
Flettons	1 8 0	" at railway depôt.
Red Wire Cuts	1 12 0	" " "
Best Fareham Red	3 12 0	" " "
Best Red Pressed Ruabon Facing	5 5 0	" " "
Best Blue Pressed Staffordshire	4 6 6	" "
Do., Bullnose	4 10 0	" " "
Best Stourbridge Fire Bricks	4 5 6	" " "
GLAZED BRICKS		
Best White and Ivory Glazed Stretchers	13 0 0	" " "
Headers	12 0 0	" " "
Quoins, Bullnose, and Flats	17 0 0	" " "
Double Stretchers	19 0 0	" " "
Double Headers	16 0 0	" " "
One Side and two Ends	19 0 0	" " "
Two Sides and one End	20 0 0	" " "
Splays, Chamfered, Squints	20 0 0	" " "
Best Dipped Salt Glazed Stretchers and Headers	12 0 0	" " "
Quoins, Bullnose, and Flats	14 0 0	" " "
Double Stretchers	15 0 0	" " "
Double Headers	14 0 0	" " "
One Side and two Ends	15 0 0	" " "
Two Sides and one End	15 0 0	" " "
Splays, Chamfered, Squints	14 0 0	" " "
Seconds Quality White and Dipped Salt Glazed	2 0 0	" less than best.

PRICES CURRENT (*Continued*).

BRICKS, &c.

	s. d.	
Thames and Pit Sand	7 3	per yard, delivered.
Thames Ballast	6 0	" "
Best Portland Cement	32 0	per ton, delivered.
Best Ground Blue Lias Lime	25 0	" "

NOTE.—The cement or lime is exclusive of the ordinary charge for sacks.

Grey Stone Lime	11s od.	per yard, delivered.
Stourbridge Fire-clay in sacks, 26s. 6d.		per ton at rly. dpt.

STONE.

	s. d.		
Ancaster in blocks	1 11	per ft. cube, deld. rly. depot.	
Bath "	1 7	" "	
Farleigh Down Bath	1 8	" "	
Beer in blocks	1 6	" "	
Grinshill "	1 10	" "	
Brown Portland in blocks	2 2	" "	
Darley Dale in blocks	2 4	" "	
Red Corsehill "	2 5	" "	
Closeburn Red Freestone	2 3	" "	
Red Mansfield "	2 4	" "	
Hard York in blocks	2 10	" "	
Hard York 6 in. sawn both sides landings, to sizes (under 40 ft. sup)	s. d. 2 8	per ft. super. at rly. depôt.	
" " 6 in. Rubbed Ditto	3 0	" "	
" " 3 in. sawn both sides slabs (random sizes)	1 3	" "	
" " 2 in. self-faced Ditto	0 9½	" "	
Hopton Wood (Hard Bed) in blocks	2 3	per ft. cube. deld. rly. depôt.	
" " " 6 in. sawn both sides landings	2 7	per ft. super. deld. rly. depôt.	
" " " 3 in. do.	1 2½	" "	

SLATES.

in. in.	£ s. d.	
20×10 best blue Bangor	12 0 0	per 1000 of 1200 at ry. dep.
" best seconds	11 10 0	" "
16×8 best "	6 15 0	" "
20×10 best blue Portmadoc	11 5 0	" "
16×8 best blue Portmadoc	6 0 0	" "
20×10 best Eureka unfading green	12 2 6	" "
16×8 " "	7 5 0	" "
20×10 permanent green	10 5 0	" "
16×8 " "	5 17 6	" "

TILES.

	s. d.	
Best plain red roofing tiles	41 6	per 1,000, at rly. depôt.
Hip and valley tiles	3 7	per doz. " "
Best Broseley tiles	45 6	per 1,000 " "
Hip and valley tiles	4 0	per doz. " "
Best Ruabon Red, brown or brindled Do. (Edwards)	57 6	per 1,000 " "
Do. ornamental Do.	60 0	" " "
Hip tiles	4 0	per doz. " "
Valley tiles	3 9	" " "
Best Red or Mottled Staffordshire Do. (Peakes)	50 9	per 1,000 " "
Hip tiles	4 1	per doz. " "
Valley tiles	3 8	" " "

WOOD.

BUILDING WOOD.—YELLOW.

	At per standard. £ s. d.	£ s. d.
Deals: best 3 in. by 11 in. and 4 in. by 9 in. and 11 in.	14 10 0	16 0 0
Deals: best 3 by 9	13 10 0	15 0 0
Battens: best 2½ in. by 7 in. and 8 in., and 3 in. by 7 in. and 8 in.	10 10	12 10 0
Battens: best 2½ by 6 and 3 by 6	0 10 0	less than 7 in. and 8 in.
Deals: seconds	1 0 0	less than best
Battens: seconds	0 10 0	" " "
2 in. by 4 in. and 2 in. by 6 in.	8 10 0	9 10 0
2 in. by 4½ in. and 2 in by 5 in.	8 0 0	9 0 0
Foreign Sawn Boards— 1 in. by 12 in. by 12 in.	0 10 0	more than battens.
¾ in.	1 0 0	"
Fir timber: Best middling Danzig or Memel (average specification)	At per load of 50 ft. 4 10 0	5 0 0
Seconds	4 5 0	4 10 0
Small timber (8 in. to 10 in.)	3 12 6	3 15 0
Swedish balks	2 15 0	3 0 0
Pitch-pine timber (50 ft.)	3 0 0	3 10 0
JOINERS' WOOD.	At per standard.	
White Sea: First yellow deals, 3 in. by 11 in.	22 0 0	23 0 0
3 in. by 9 in.	20 0 0	21 0 0
Battens, 2½ in. and 3 in. by 7 in.	16 10 0	18 0 0
Second yellow deals, 3 in. by 11 in.	18 0 0	20 0 0
" " 3 in. by 9 in.	16 10 0	18 10 0
Battens, 2½ in. and 3 in. by 7 in.	13 0 0	14 0 0
Third yellow deals, 3 in. by 11 in. and 9 in.	14 0 0	15 10 0
Battens, 2½ in. and 3 in. by 7 in.	11 10 0	12 10 0
Petersburg: first yellow deals, 3 in. by 11 in.	20 0 0	21 0 0
Do. 3 in. by 9 in.	17 0 0	18 0 0
Battens	13 0 0	14 0 0
Second yellow deals, 3 in. by 11 in.	15 0 0	16 10 0
Do. 3 in. by 9 in.	13 10 0	14 10 0
Battens	11 0 0	12 0 0
Third yellow deals, 3 in. by 11 in.	12 10 0	13 10 0
Do. 3 in. by 9 in.	12 0 0	13 0 0
Battens	10 0 0	11 0 0
White Sea and Petersburg:— First white deals, 3 in. by 11 in.	14 0 0	15 0 0
" " " 3 in. by 9 in.	13 0 0	14 0 0
Battens	11 0 0	12 0 0
Second white deals 3 in. by 11 in.	13 0 0	14 0 0
" " " 3 in. by 9 in.	12 0 0	13 0 0
" " " battens	9 10 0	10 10 0

PRICES CURRENT (*Continued*).

WOOD.

	At per standard. £ s. d.	£ s. d.
Pitch-pine: deals	16 0 0	18 0 0
Under 3 in. thick extra	0 10 0	1 0 0
Yellow Pine—First, regular sizes	32 0 0	33 10 0
Broads (12 in. and up)	2 0 0	more.
Oddments	22 0 0	24 0 0
Seconds, regular sizes	24 10 0	26 10 0
Yellow Pine Oddments	20 0 0	22 0 0
Kauri Pine—Planks, per ft. cube	0 3 6	0 4 6
Dantzig and Stettin Oak Logs— Large, per ft. cube	0 2 6	0 3 0
Small " "	0 2 3	0 2 6
Wainscot Oak Logs, per ft. cube	0 5 0	0 5 6
Dry Wainscot Oak, per ft. sup. as inch	0 0 7½	0 0 8
¾ in. do. do.	0 0 7	- - -
Dry Mahogany— Honduras, Tabasco, per ft. sup. as inch	0 0 9	0 0 11
Selected, Figury, per ft. sup. as inch	0 1 6	0 2 0
Dry Walnut, American, per ft sup. as inch	0 0 10	0 1 0
Teak, per load	16 0 0	20 0 0
American Whitewood Planks— Per ft. cube	0 3 0	0 3 6
Prepared Flooring—	Per square.	
1 in. by 7 in. yellow, planed and shot	0 13 0	0 16 6
1 in. by 7 in. yellow, planed and matched	0 13 6	0 17 6
1¼ in. by 7 in. yellow, planed and matched	0 15 0	1 0 0
6 in. at 6d. per square less than 7 in.		
1 in. by 7 in. white, planed and shot	0 11 0	0 12 6
1 in. by 7 in. white, planed and matched	0 11 6	0 13 6
1¼ in. by 7 in. white, planed and matched	0 13 6	0 15 6
6 in. at 6d. per square less than 7 in.		

JOISTS, GIRDERS, &c.

	In London, or delivered Railway Vans, per ton. £ s. d.	£ s. d.
Rolled Steel Joists, ordinary sections	6 2 6	7 2 6
Compound Girders " "	7 17 6	8 17 6
Angles, Tees and Channels, ordinary sections	7 17 6	8 17 6
Flitch Plates	8 5 0	8 15 0
Cast Iron Columns and Stanchions, including ordinary patterns	7 0 0	8 0 0

METALS.

	Per ton, in London. £ s. d.	£ s. d.
IRON—		
Common Bars	8 0 0	8 10 0
Staffordshire Crown Bars, good merchant quality	8 10 0	9 0 0
Staffordshire "Marked Bars"	10 10 0	- - -
Mild Steel Bars	9 0 0	9 10 0
Hoop Iron, basis price	9 5 0	9 15 0
" " galvanised	16 0 0	- - -
(* And upwards, according to size and gauge.)		
Sheet Iron, Black.— Ordinary sizes to 20 g.	10 0 0	- - -
" " to 24 g.	11 0 0	- - -
" " to 26 g.	12 10 0	- - -
Sheet Iron, Galvanised, flat, ordinary quality.— Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 20 g.	12 10 0	- - -
" " 22 g. and 24 g.	13 0 0	- - -
" " 26 g.	14 0 0	- - -
Sheet Iron, Galvanised, flat, best quality:— Ordinary sizes to 20 g.	16 10 0	- - -
" " 22 g. and 24 g.	17 0 0	- - -
" " 26 g.	18 10 0	- - -
Galvanised Corrugated Sheets.— Ordinary sizes, 6 ft. to 8 ft. 20 g.	12 10 0	- - -
" " 22 g. and 24 g.	13 0 0	- - -
" " 26 g.	14 0 0	- - -
Best Soft Steel Sheets, 6 ft. by 2 ft. to 3 ft. by 20 g. and thicker	12 5 0	- - -
" " 22 g. and 24 g.	13 5 0	- - -
" " 26 g.	14 5 0	- - -
Cut nails, 3 in. to 6 in.	9 10 0	10 0 0
(Under 3 in. usual trade extras.)		

LEAD, &c.

	Per ton, in London. £ s. d.	£ s. d.
LEAD—Sheet, English, 3 lbs. & up.	14 5 0	- - -
Pipe in coils	14 15 0	- - -
Soil Pipe	17 5 0	- - -
ZINC—Sheet—		
Vieille Montagne ton	24 10 0	- - -
Silesian	24 0 0	- - -
COPPER—		
Strong Sheet per lb.	0 1 0	- - -
Thin "	0 1 1½	- - -
Copper nails "	0 1 1½	- - -
BRASS—		
Strong Sheet "	0 0 11	- - -
Thin "	0 1 1	- - -
TIN—English Ingots "	0 1 3	- - -
SOLDER—Plumbers' "	0 0 6½	- - -
Tinmen's "	0 0 5	- - -
Blowpipe "	0 0 9	- - -

ENGLISH SHEET GLASS IN CRATES.

15 oz. thirds	2½d. per ft. delivered.
" fourths	2¾d. " "
21 oz. thirds	3½d. " "
" fourths	3d. " "
26 oz. thirds	4½d. " "
" fourths	4d. " "

[*See also next page.*

COMPETITIONS, CONTRACTS, AND PUBLIC APPOINTMENTS.

(For some Contracts, &c., still open, but not included in this List, see previous issues.)

COMPETITIONS.

Nature of Work.	By whom Advertised.	Premiums.	Designs to be delivered
*Memorial to Queen Victoria, Guildhall, York	The Committee	50*l.*	May 1
*Infectious Disease Hospital	Harrogate, &c., Jt. Isol. Hosp. Com	100*l.* and 50*l.*	June 1
*Police and Fire Brigade Buildings	County Borough of Sunderland	100*l.*, 50*l.*, and 25*l.*	Aug 10

CONTRACTS.

Nature of Work or Materials.	By whom Advertised.	Forms of Tender, &c., Supplied by	Tenders to be delivered
Railway Stores, Manchester	L. and Y. Railway Company	R. C. Irwin, Hunt's Bank, Manchester	April 1
Water Works, near Bruton, Somerset	Wincanton R.D.C.	A. P. I. Cottereil, Civil Engineer, 28, Baldwin-street, Bristol	do.
Road Metal, &c.	Waterloo (Lancs) U.D.C.	F. S. Yates, Civil Engineer, Town Hall, Waterloo	do.
Road Works, Princess-street	Rochdale Corporation	S. S. Platt, Civil Engineer, Boro. Surveyor, Town Hall, Rochdale	do.
Sewerage Works	Longton (Staffs) Town Council	J. W. Wardle, Civil Engineer, Court House, Longton	do.
Convalescent Home, Cwmdonkin	Swansea Hospital Committee	G. Moxham, Architect, Castle-street, Swansea	do.
Fire Station	East Molesey U.D.C.	J. Stevenson, Surveyor, Council Offices, East Molesey	do.
Wood Paving Blocks (1,200,000)	Hastings Corporation	F. H. Palmer, Civil Engineer, Town Hall, Hastings	do.
Additions to Schools, Neyland	Llanstadwell, &c., School Board	D. E. Thomas, Architect, Haverfordwest	do.
School, Bentinck	Newcastle-on-Tyne School Board	A. Goddard, Grainger-street West, Newcastle	April 2
Cast Iron Pipes, &c.	Llandudno U.D.C.	E. P. Stephenson, Engineer, Town Hall, Llandudno	do.
Limestone, &c.	Pontypool R.D.C.	R. Detrett, Surveyor, Usk	do.
Stoneware Pipes, Cement, &c.	Margate Corporation	Borough Engineer, Town Hall, Margate	do.
Police Station, Seacombe, Cheshire	West Ham Union	H. Beswick, Architect, Newgate-street, Chester	do.
*Stoves and Ranges	Ealing Town Council	Clerk's Office, Union Workhouse, Leytonstone, N.E.	do.
*Making-up Roads	Luton Town Council	Borough Engineer, Town Hall, Ealing, W.	April 3
Minister's House, Kineton, Warwick	Sunderland Corporation	A. Fairfax, Banbury	do.
Broken Slag and Granite	Consett Iron Company, Limited	Borough Surveyor, Town Hall, Luton	do.
Two Houses, Saville-place	Blything (Suffolk) R.D.C.	W. & T. R. Milburn, 20, Fawcett-street, Sunderland	do.
Concert Hall, &c., Dartford	Rev. T. A. Seed	H. E. Bennett, Westgate House Club, Dartford	April 4
Cottages, South Cross-street, Leadgate, Durham	Midland Railway Company	C. E. Oliver, Architect, General Offices, Consett	do.
Quenast Granite (3,000 tons)	North Eastern Railway Company	H. A. Mullens, Union Offices, Bulcamp, Suffolk	do.
Minister's Residence, Sandbach	Standing Joint Committee	A. Price, Architect, Sandbach	do.
*Cleaning and Painting Somers Town Depot	Maldon R.D.C.	Company's Architect, Cavendish House, Derby	do.
Superstructure of Offices, York	Borough of Islington	W. Bell, Architect, York	do.
Police Station, &c., Helston, Cornwall	do.	O. Caldwell, Architect, Victoria-square, Penzance	April 5
Road Metal, &c.	Cockermouth Burial Board	Keywood & Eunais, Surveyors, Public Hall Chambers, Maldon	do.
*Repairing, &c., Public Urinals	Macroom U.D.C.	Borough Engineer, Town Hall, Upper-street, N.	April 7
Repairs, &c., Public Gardens	Dronfield (York) U.D.C.	do.	do.
Greenhouse at Cemetery	Louth (Lincs) Town Council	T. C. Burn, Main-street, Cockermouth	do.
Town Hall	Nantwich U.D.C.	A. W. Barnard, Civil Engineer, Council Offices, Macroom	do.
Road Works, Victoria-street	The Company	I. H. Atkinson, Surveyor, Dronfield	do.
Broken Granite	Steyning East R.D.C.	G. H. Ailison, Borough Surveyor, Town Hall, Louth	do.
Refuse Destructor, Buildings, &c.	Port of London Sanitary Com.	W. F. Newey, Market-street, Nantwich	do.
New Roads, Muswell Hill	North Eastern Railway Company	Vigers & Co., 4, Frederick's-place, Old Jewry, E.C.	do.
Flint Road Metal	Kingston-on-Thames Corporation	E. Cripps, Council Offices, Ham-road, Shoreham	April 8
Additions to Hospital, Denton, near Gravesend	Warrington Corporation	City Surveyor, Guildhall, E.C.	do.
Bridge, Bessingby-road, Bridlington	Sutton Coldfield Corporation	W. J. Cudworth, Engineer, Company's Offices, York	do.
*Road Making and Lighting Works	Foleshill R.D.C.	Borough Surveyor, Clattern House, Kingston-on-Thames	April 9
Electric Tramways	Belfast District Asylum Com.	Preece & Cardew, Engineers, 8, Queen Anne's Gate, S.W.	do.
Bricks, Cement, &c.	Old Brentford School Board	F. W. Mager, Surveyor, Aldridge, Walsall	do.
Drainage Works, Foleshill, near Coventry	Southampton County Council	C. N. Lamey, Civil Engineer, 6, The Sanctuary, Westminster, S.W.	do.
Chapel and Schools, Middleton-on-the-Wolds	Hambledon R.D.C.	Geider & Kitchen, Architects, 76, Lowgate, Hull	April 10
Pair of Villas, Malone-road, Belfast	Leyton U.D.C.	Blackwood & Jury, Architects, 41, Donegall-place, Belfast	April 11
Two Villas, Purdysburn Estate	Tarporley (Cheshire) U.D.C.	Graeme-Watt & Tulloch, Architects, 77a, Victoria-street, Belfast	April 12
*Erection of Schools	Devonport Corporation	Sowell, Parr & A. E. Kates, Archts., 5, Brent-rd., Brentford, W.	April 14
Church, Kilcoe, Ireland	Gloucester School Board	M. A. Hennessy, Architect, South Mall, Cork	do.
*Additions, &c., Aldershot Police Station	Tendring Union	County Surveyor, The Castle, Winchester	April 15
Road Materials, near Guildford	South Shore Bowling Club	G. Lintott, Surveyor, Cranleigh	do.
*1,680 yds. of Hassall's Pipe Sewer at Leyton Marshes	Northern Theatres Co., Ltd.	W. Dawson, Town Hall, Leyton	April 16
ripes Sewers (two miles)	Aston Manna Brick and Tile Co.	B. Latham, Civil Engineer, Victoria-street, Westminster, S.W.	do.
Tramway Works	Kelso District Committee	A. B. Pilling, Municipal Buildings, Devonport	do.
*Infants' School		H. Medland, Architect, 15, Clarence-street, Gloucester	April 21
*Additions, &c., to Union Workhouse		The Clerk, 42, Church-street, Sparwich	April 22
Pavilion, Blackpool		J. W. Bullock, Architect, 26, Dean-street, South shore, Blackpool	No date
Additions to House, near Fyling Hall, Whitby		H. G. Walker, Architect, Skinner-street, Whitby	do.
Theatre, Halifax		Jackson & Fox, Architects, Rawson-street, Halifax	do.
Large Drying shed, Moreton-in-the-Marsh		J. Kennedy, Estates Office, Bataford	do.
Four Houses, Spring Grove Mount, Hunslet, Leeds		J. B. Leak, Architect, Waterloo-road, Hunslet, Leeds	do.
Hospital		Mitchell & Wilson, Architects, 13, Young-street, Edinburgh	do.
Villa, Plumtree, Nottingham		F. Parkin, Civil Engineer, Prudential Buildings, Nottingham	do.
Club and Institute, Rowlands Gill, Durham		T. H. stafford, Architect, South Garesfield Colliery, Lintz Green	do.
*Detached Residences, Keswick-road, Putney, S.W.		Hugh Davies, Architect, 124, Holborn, E.C.	do.

PUBLIC APPOINTMENTS.

Nature of Appointment.	By whom Required.	Salary.	Application to be in
*Surveyor of Highways	Bourne R.D.C.	180*l.*	April 2
*Chief Engineer and Surveyor	County Borough of Northampton	600*l.* per annum	Mar. 16

Those marked with an asterisk (*) are advertised in this Number. Competitions, p. iv. Contracts, pp. iv. vi. viii. & x. Public Appointments, xviii.

PRICES CURRENT (*Continued*).

ENGLISH SHEET GLASS IN CRATES.

32 oz. thirds	5½d.	per ft. delivered.
,, fourths	5d.	,, ,,
Fluted sheet, 15 oz.	3d.	,, ,,
,, 21 ,,	4d.	,, ,,
⅛ Hartley's Rolled Plate	2d.	,, ,,
⅛ ,, ,, ,,	2½d.	,, ,,
¼ ,, ,, ,,	2¾d.	,, ,,

OILS, &c.

		£ s. d.
Raw Linseed Oil in pipes	per gallon	0 2 9
,, ,, ,, in barrels	,,	0 2 10
,, ,, ,, in drums	,,	0 3 0
Boiled ,, ,, in pipes	,,	0 2 11
,, ,, ,, in barrels	,,	0 3 0
,, ,, ,, in drums	,,	0 3 2
Turpentine, in barrels	,,	0 2 6
,, in drums	,,	0 2 8
Genuine Ground English White Lead	per ton	21 0 0
Red Lead, Dry	,,	20 10 0
Best Linseed Oil Putty	per cwt.	0 2 6
Stockholm Tar	per barrel	1 12 0

PRICES CURRENT (*Continued*).

VARNISHES, &c.

	Per gallon. £ s. d.
Fine Elastic Copal Varnish for outside work	0 16 6
Best Elastic Copal Varnish for outside work	1 0 0
Best Elastic Carriage Varnish for outside work	0 16 0
Best Hard Oak Varnish for inside work	0 10 6
Best Extra Hard Church Oak Varnish for inside work	0 10 6
Fine Hard Copal Varnish for inside work	0 16 0
Best Hard Copal Varnish for inside work	1 0 0
Best Hard Carriage Varnish for inside work	0 16 0
Extra Pale Paper Varnish	0 12 0
Best Japan Gold Size	0 10 6
Best Black Japan	0 16 0
Oak and Mahogany Stain	0 9 0
Brunswick Black	0 3 6
Berlin Black	0 16 0
Knotting	0 10 0
Best French and Brush Polish	0 19 0

TO CORRESPONDENTS.

NOTE.—The responsibility of signed articles, letters, and papers read at meetings rests, of course, with the authors.

We cannot undertake to return rejected communications.

Letters or communications (beyond mere news items) which have been duplicated for other journals are NOT DESIRED.

We are compelled to decline pointing out books and giving addresses.

Any commission to a contributor to write an article is given subject to the approval of the article, when written, by the Editor, who retains the right to reject it if unsatisfactory. The receipt by the author of a proof of an article in type does not necessarily imply its acceptance.

All communications regarding literary and artistic matters should be addressed to THE EDITOR; those relating to advertisements and other exclusively business matters should be addressed to THE PUBLISHER, and *not* to the Editor

TENDERS.

[Communications for insertion under this heading should be addressed to "The Editor," and must reach us *not later than 10 a.m. on Thursdays.* N.B.—We cannot publish Tenders unless authenticated either by the architect or the building-owner; and we cannot publish announcements of Tenders accepted unless the amount of the Tender is given, nor any list in which the lowest Tender is under 100*l.*, unless in some exceptional cases and for special reasons.]

* Denotes *accepted.* † Denotes *provisionally accepted.*

CROYDON.—For detached house, Chatsworth-road. Mr. A. Broad, architect, 22, George-street, Croydon. Quantities by the architect:—

S. Hart	£1,997	Pearson & Co	£1,875
S. Page	1,985	E. J. Saunders	1,800
Smith & Sons	1,960	E. J. Burnand	1,790
Akers & Co.	1,937	Hanscomb & Smith	1,744
W. Potter	1,919	Smith & Son*	1,728
D. W. Barker	1,899		

CROYDON.—For house, Beech House-road. Mr. A. Broad, architect, 22, George-street, Croydon:—

W. Potter	£839	D. W. Barker*	£842

CROYDON.—For house, Temple-road. Mr. A. Broad, architect, 22, George-street, Croydon:—

J. J. Cooper	£705	Pearson & Co.*	£600
W. Potter	659		

FENNY STRATFORD.—For the construction of sewage disposal works for the Urban District Council. Mr. J. Chadwick, engineer, Bletchley, and 53, St. Margaret's-mansions, Victoria-street, London, S.W.:—

Contract No. 1.

G. Bell	£10,903 9 9
W. Manders	9,364 7 2
J. Jackson	8,508 18 4
J. and T. Binns	8,459 11 1
York Green & Co.	8,390 11 3
Lock & Andrews	8,064 16 0
J. Cuniff	7,937 11 9
C. Carden	7,904 0 8
Bower Bros.	7,675 0 0
Grounds & Newton	7,541 10 7
Siddons & Freeman*	7,050 0 0
R. L. Tonge	6,300 0 0

Contract No. 2.

J. Jackson	£7,442 9 2
York, Green & Co.	7,384 13 9
G. Bell	7,264 7 0
Bower Bros.	7,161 9 0
J. & T. Binns	7,023 12 5
W. Manders	6,735 14 3
Lock & Andrews	6,622 13 8
Siddons & Freeman	6,490 0 0
J. Cuniff	6,349 16 8
R. L. Tonge	6,320 0 0
Grounds & Newton*	6,114 14 6

Contract No. 3.

J. & T. Binns	£4,090 18 3
J. Jackson	3,845 11 8
Hughes & Lancaster	3,791 9 0
J. Cuniff	3,699 12 9
Bower Bros.	3,675 0 0
Siddons & Freeman*	3,399 0 0

LONDON.—For erecting a block of dwellings on the Queen Catherine-court area, Dorset-street, Limehouse, E., for the Metropolitan Borough of Stepney. Mr. W. Jameson, Borough Engineer:—

Holliday & Greenwood	£6,377	Dove Brothers	£5,685
Wells, Martin, & Co., Ltd.	6,315	Todd & Newman	5,678
Chessum & Sons	5,999	H. N. Holloway	5,657
H. Lovatt	5,873	C. G. Hill	5,596
B. E. Nightingale	5,765	F. G. Minter	5,587
A. Porter	5,765	Patman & Fotheringham, Ltd.	5,553
Smith & Sons, Ltd.	5,729	Sabey & Son	5,527
Wilson Brothers & Lamplough	5,693	R. & E. Evans, 8, Lisford-street, Sumner-road, Peckham, S.E.*	5,408

LONDON.—For supplying and fixing a complete electric light installation at the Public Library, Bancroft-road, Mile End, E., for the Metropolitan Borough of Stepney. Mr. W. Jameson, Borough Engineer:—

Haines & Co.	£148 18 8	Christie & Co.	£96 0 0
Barlow Bros.	127 0 0	Ward Bros., 13, Beer-lane, E.C.*	93 1 0
Tamplin & Makocski	109 17 2		
The Lighting Corpn., Ltd.	107 10 0		

LONDON.—For supplying and delivering timber for year ending March, 1903, for the Metropolitan Borough of Stepney. Mr. W. Jameson, Borough Engineer:—

J. J. & S. W. Chalk, 2½ per cent. below schedule prices.
G. R. Gray, 10 per cent. above schedule prices.
Peplings & Son, Adelina-grove, Mile End, E.* 32½ per cent. below schedule prices.
J. Ponler & Son, 7½ per cent. above schedule prices.

LONDON. For supplying and delivering bricks, lime, and fire clay, for year ending March, 1903, for the Metropolitan Borough of Stepney. Mr. M. W. Jameson, Borough Engineer:—

	Bricks. Staff.	Bricks. Flettons.	Bricks. Stocks.	Bricks. Fire. Sq.	Bricks. Fire. Arch.	Lime. Grey Stone.	Lime. Chalk	Per Ton Fire Clay.
	—	—	—	—	—	—	—	
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	s. d.	s. d.	£ s. d.
Assoc. P. C. Manufacturers, Ltd.	—	—	2 2 0	—	—	11 6	11 6	—
Byford & Sons, Moody Wharf, Poplar, E.*	2 14 0	1 9 0	2 0 0	3 17 6	3 17 6	11 3	11 3	0 19 6
Erith, Lisney, & Co.	9 in. by 4½ in. by 2¾ in. 3 0 0		2 0 0	4 10 0	4 10 0	12 6	12 6	1 10 0
	9 in. by 4½ in. by 3 in. 3 5 0	1 15 0						
J. Gibbs, Jun.	3 9 0	1 15 0	2 1 0	2 19 0	4 12 6	12 6	12 6	1 11 6
Harper & Moores, Ltd.	—	—	—	4 3 6	4 3 6	—	—	1 14 0
W. T. Lamb	—	—	—	—	—	10 0	10 0	—
Passmore & Co.	3 2 6	1 11 3	1 17 6	3 10 0	3 15 0	11 0	11 0	1 0 0
Rosher & Co.	4 15 0	1 15 0	2 0 0	4 15 0	5 0 0	12 0	12 0	1 10 0
Sankey & Son	2 19 0	1 12 0	1 18 0	3 19 6	3 19 6	11 6	11 6	1 3 0
				3 14 6				
Tibbington Brick Works, Ltd.	—	—	—	3 15 0	3 15 0	—	—	1 4 9
Wakeley Bros. & Co.	—	1 12 6	2 18 6	4 5 0	—	10 10	10 10	1 15 0
Bray & Co.	—	1 14 6	—	—	—	—	—	—
H. Goodman	3 7 0	1 12 6	1 19 6	4 5 0	4 5 0	11 9	11 9	1 5 0

LONDON.—For granite paving for the Metropolitan Borough of Stepney. Mr. M. W. Jameson, Borough Engineer:—

	G. J. Anderson.	J. C. Base.	Wm. Gibbs, Ltd.	W. Griffiths, & Co., Ltd.*	W. Moon.
TURNER-STREET.	s. d.	s. d.	s. d.	s. d.	£ s. d.
Excavate, screen, and cart away, at per yard cube	4 6	5 0	4 6	4 6	0 11 1
Concrete (screened granite ballast and Portland cement) at per yard cubic	11 0	12 6	12 0	11 0	1 2 0
Concrete (ballast and Portland cement) at per yard cube	13 9	15 0	14 0	14 0	1 5 6
Pave with old granite sets, at per yard super	2 6	2 9	3 0	2 6	0 2 9
Square, dress, and ditto, at per yard super	4 5	4 7	5 0	4 5	0 4 8
Make, square, dress, and ditto, at per yard super	4 11	5 2	5 6	4 11	0 5 10
JUBILEE-STREET.					
Excavate, screen and cart away, at per yard cube	4 6	5 0	4 6	4 6	0 11 1
Concrete (screened granite ballast, and Portland cement) at per yard cube	11 0	12 6	12 0	11 0	1 2 0
Concrete (ballast and Portland cement) at per yard cube	13 9	15 0	14 0	14 0	1 5 6
Pave with old granite sets, at per yard super	2 6	2 9	3 0	2 6	0 2 9
Square, dress, and ditto, at per yard super	4 5	4 7	5 0	4 5	0 4 8
Make, square, dress, and ditto, at per yard super	4 11	5 2	5 6	4 11	0 5 10

LONDON.—For supplying and delivering Portland cement for year ending March, 1903, for the Metropolitan Borough of Stepney. Mr. W. Jameson, Borough Engineer:—

	Duke Shore Wharf.	Riga Wharf.	Railway Station.
	£ s. d.	£ s. d.	£ s. d.
Assoc. P.C. Manufacturers, Ltd.	1 6 11	1 7 8	1 9 3
Barron & Co.	1 6 6	1 8 6	—
Byford & Sons, Moody Wharf, Poplar, E.‡	1 5 5	1 6 2	1 8 3
Coles, Shadbolt, & Co.	1 8 7	1 8 0	1 11 0
Erith, Lisney, & Co.	1 10 0	1 10 9	1 11 6
W. T. Lamb	—	—	1 9 0 van load.
Passmore & Co.	1 7 6	1 8 3	1 9 0
Rosher & Co.	1 8 3	1 10 2	1 12 6
Sankey & Son	1 6 3	1 6 9	—
Wakeley Bros.	1 5 4	—	—
Wm. Gibbs, Ltd.	1 7 0	—	—
Goodman	1 7 9	1 8 9	1 9 0

‡ Anywhere in borough, £1 8s. 11d.

LONDON.—For supplying and delivering drainage materials for year ending March, 1903, for the Metropolitan Borough of Stepney. Mr. W. Jameson, Borough Engineer:—

	Percentage below schedule prices.	Discount.
Albion Clay Co., Ltd.	40 per cent.	2½ per cent.
Byford & Sons	40 per cent.	2½ per cent.
Doulton & Co.	32½ per cent. for best London stoneware. 40 per cent. for best Staffordshire stoneware	2½ per cent. off monthly payments
Erith, Lisney, & Co., 459, Old Ford-road, Bow, E.*	45 per cent.	2½ per cent.
Passmore & Co.	42½ per cent.	—
Sankey & Son	40 per cent.	2½ per cent.
Stiff & Son	40 per cent.	2½ per cent.
Sutton & Co.	40 per cent.	2½ per cent.
J. Gibbs, jun.	30 per cent.	—
Cliff & Son	—	Informal

LONDON.—For supplying and delivering cast iron gully grates, &c., for year ending March, 1903, for the Metropolitan Borough of Stepney. Mr. W. Jameson, Borough Engineer:—

	Per cent.
Carima Iron Foundry, 25, Leatherdale-st., Mile End, E.*	22½‡
C. & W. Gill	5 ‡
W. Harris	5 ‡
Northamptonshire Direct Castings Co.	10 §
Pontifex & Co.	9½‡
Warner, Ltd.	15 ‡
E. & F. Wright	18½‡

‡ Below schedule. § Above schedule.

LONDON.—For supplying and delivering colours, varnishes, &c., for the year ending March, 1903, for the Borough of Stepney. Mr. W. Jameson, Borough Engineer:—

E. R. Goodrich	25	per cent. below schedule.
Haines & Co.	17½	" "
Middleton Bros.	20½	" "
Miles & Ginn, 43, Mile End-road, E.*	25	" "
R. D. Stewart	25	" "

LONDON.—For asphalte paving at Bancroft-road, Old Church-road, and any other new asphalte paving or reinstating the Council may order before Lady Day, 1903, for the Metropolitan Borough of Stepney. Mr. W. Jameson, Borough Engineer:—

		French Asphalte Co., Ltd.*	Limmer Asphalte Co.	Val de Travers Co.
		s. d.	s. d.	s. d.
New Paving.		At per load.		
Take up pitchings, cart to depot		2 6	3 0	2 6
		At per yard cube.		
Break up macadam, screen and cart earth to shoot		6 0	7 0	6 6
Excavate ground and cart to shoot		6 0	7 0	6 6
Concrete (screened granite, ballast, and Portland cement) brought up to receive paving		15 0	18 0	15 6
Concrete (ballast and Portland cement) and as No. 4		18 0	18 0	18 0
		At per yard super.		
Compressed asphalte	2 in. thick	9 10	10 6	10 0
Ditto	1½ "	7 9	8 6	8 0
Ditto	1 "	5 0	5 9	5 6
Mastic asphalte	1 "	5 0	6 0	5 6
Ditto	¾ "	4 6	5 0	4 9
Ditto	½ "	4 0	4 0	4 0
Repairing Existing Paving.		At per yard super.		
Break up asphalte and cart away		—	0 3	0 1
		At per yard cube.		
Ditto, and concrete thereunder, and ditto		6 0	7 0	6 6
Excavate ground and cart to shoot		6 0	7 0	6 6
Concrete (screened granite, ballast and Portland cement) brought up to receive paving		18 0	18 0	18 0
Concrete (ballast and Portland cement) and as No. 15		18 0	18 0	18 0
		At per yard super.		
Compressed asphalte	2 in. thick	12 0	13 0	12 6
Ditto	1½ "	10 0	10 6	10 6
Ditto	1 "	6 0	7 0	6 0
Mastic asphalte	1 "	6 0	6 9	6 0
Ditto	¾ "	5 3	6 0	5 6
Ditto	½ "	4 9	5 0	5 0

[See also next page.

COMPETITIONS, CONTRACTS, AND PUBLIC APPOINTMENTS.

(For some Contracts, &c., still open, but not included in this List, see previous issues.)

COMPETITIONS.

Nature of Work.	By whom Advertised.	Premiums.	Designs to be delivered
*Memorial to Queen Victoria, Guildhall, York	The Committee	50*l.*	May 1
*Infectious Disease Hospital	Harrogate, &c., Jt. Isol. Hosp. Com	100*l.* and 50*l.*	June 1
*Police and Fire Brigade Buildings	County Borough of Sunderland	100*l.*, 50*l.*, and 25*l.*	Aug 10

CONTRACTS.

Nature of Work or Materials.	By whom Advertised.	Forms of Tender, &c., Supplied by	Tenders to be delivered
Railway Stores, Manchester	L. and Y. Railway Company	R. C. Irwin, Hunt's Bank, Manchester	April 1
Water Works, near Bruton, Somerset	Wincanton R.D.C.	A. P. I. Cottereil, Civil Engineer, 28, Baldwin-street, Bristol	do.
Road Metal, &c.	Waterloo (Lancs) U.D.C.	F. S. Yates, Civil Engineer, Town Hall, Waterloo	do.
Road Works, Princess-street	Rochdale Corporation	S. S. Platt, Civil Engineer, Boro. Surveyor, Town Hall, Rochdale	do.
Sewerage Works	Longton (Staffs) Town Council	J. W. Wardle, Civil Engineer, Court House, Longton	do.
Convalescent Home, Cwmdonkin	Swansea Hospital Committee	G. Moxham, Architect, Castle-street, Swansea	do.
Fire Station	East Molesey U.D.C.	J. Stevenson, Surveyor, Council Offices, East Molesey	do.
Wood Paving Blocks (1,200,000)	Hastings Corporation	F. H. Palmer, Civil Engineer, Town Hall, Hastings	do.
Additions to Schools, Neyland	Llanstadwell, &c., School Board	D. E. Thomas, Architect, Haverfordwest	do.
School, Bentinck	Newcastle-on-Tyne School Board	A. Goddard, Grainger-street West, Newcastle	April 2
Cast Iron Pipes, &c.	Llandudno U.D.C.	E. P. Stephenson, Engineer, Town Hall, Llandudno	do.
Limestone, &c.	Pontypool R.D.C.	E. Detrett, Surveyor, Usk	do.
Stoneware Pipes, Cement, &c.	Margate Corporation	Borough Engineer, Town Hall, Margate	do.
Police Station, Seacombe, Cheshire	West Ham Union	H. Beswick, Architect, Newgate-street, Chester	do.
*Stoves and Ranges	Ealing Town Council	Clerk's Office, Union Workhouse, Leytonstone, N.E.	do.
*Making-up Roads	Luton Town Council	Borough Engineer, Town Hall, Ealing, W.	April 3
Minister's House, Kineton, Warwick	Sunderland Corporation	A. Fairfax, Banbury	do.
Broken Slag and Granite	Consett Iron Company, Limited	Borough Surveyor, Town Hall, Luton	do.
Two Houses, Saville-place	Blything (Suffolk) R.D.C.	W. & T. R. Milburn, 20, Fawcett-street, Sunderland	do.
Concert Hall, &c., Dartford	Rev. T. A. Seed	H. K. Bennett, Westgate House Club, Dartford	April 4
Cottages, South Cross-street, Leadgate, Durham	Midland Railway Company	C. E. Oliver, Architect, General Offices, Consett	do.
Quenast Granite (3,000 tons)	North Eastern Railway Company	H. A. Mulleus, Union Offices, Bulcamp, Suffolk	do.
Minister's Residence, Sandbach	Standing Joint Committee	A. Price, Architect, Sandbach	do.
*Cleaning and Painting Somers Town Depot	Maldon R.D.C.	Company's Architect, Cavendish House, Derby	do.
Superstructure of Offices, York	Borough of Islington	W. Bell, Architect, York	do.
Police Station, &c., Helston, Cornwall	do.	O. Caldwell, Architect, Victoria-square, Penzance	April 5
Road Metal, &c.	Cockermouth Burial Board	Keywood & Kanals, Surveyors, Public Hall Chambers, Maldon	do.
*Repairing, &c., Public Urinals	Macroom U.D.C.	Borough Engineer, Town Hall, Upper-street, N.	April 7
Repairs, &c., Public Gardens	Dronfield (York) U.D.C.	do.	do.
Greenhouse at Cemetery	Louth (Lincs) Town Council	T. C. Burn, Main-street, Cockermouth	do.
Town Hall	Nantwich U.D.C.	A. W. Barnard, Civil Engineer, Council Offices, Macroom	do.
Road Works, Victoria-street	The Company	I. H. Atkinson, Surveyor, Dronfield	do.
Broken Granite	Steyning East R.D.C.	G. H. Allison, Borough Surveyor, Town Hall, Louth	do.
Refuse Destructor, Buildings, &c.	Port of London Sanitary Com.	W. F. Newey, Market-street, Nantwich	do.
New Roads, Muswell Hill	North Eastern Railway Company	Vigers & Co., 4, Frederick's-place, Old Jewry, E.C.	do.
Flint Road Metal	Kingston-on-Thames Corporation	E. Cripps, Council Offices, Ham-road, Shoreham	April 8
Additions to Hospital, Denton, near Gravesend	Warrington Corporation	City Surveyor, Guildhall, E.C.	do.
Bridge, Bessingby-road, Bridlington	Sutton Coldfield Corporation	W. J. Cudworth, Engineer, Company's Offices, York	do.
*Road Making and Lighting Works	Foleshill R.D.C.	Borough Surveyor, Eastern House, Kingston-on-Thames	April 9
Electric Tramways		Preece & Cardew, Engineers, 8, Queen Anne's Gate, S.W.	do.
Bricks, Cement, &c.	Belfast District Asylum Com.	F. W. Mager, Surveyor, Aldridge, Walsall	do.
Drainage Works, Foleshill, near Coventry	Old Brentford School Board	C. N. Lailey, Civil Engineer, 6, The Sanctuary, Westminster, S.W	do.
Chapel and Schools, Middleton-on-the-Wolds		Geider & Kitchen, Architects, 76, Lowgate, Hull	April 10
Pair of Villas, Malone-road, Belfast	Southampton County Council	Blackwood & Jury, Architects, 41, Donegall-place, Belfast	April 11
Two Villas, Purdysburn Estate	Hambledon R.D.C.	Graeme-Watt & Tulloch, Architects, 77a, Victoria-street, Belfast	April 12
*Erection of Schools	Leyton U.D.C.	Nowell, Parr & A. E. Kates, Archts., 5, Brent-rd., Brentford, W.	April 14
Church, Kilcoe, Ireland	Tarporley (Cheshire) U.D.C.	St. A. Hennessy, Architect, South Mall, Cork	do.
*Additions, &c., Aldershot Police Station	Devonport Corporation	County Surveyor, The Castle, Winchester	April 15
Road Materials, near Guildford	Gloucester School Board	G. Lintott, Surveyor, Cranleigh	do.
*1,680 yds. of Hassall's Pipe Sewer at Leyton Marshes	Tendring Union	W. Dawson, Town Hall, Leyton	April 16
Pipes Sewers (two miles)	South Shore Bowling Club	E. Latham, Civil Engineer, Victoria-street, Westminster, S.W.	do.
Tramway Works	Northern Theatres Co., Ltd.	A. B. Piling, Municipal Buildings, Devonport	do.
*Infants' School	Aston Magna Brick and Tile Co.	H. Medland, Architect, 15, Clarence-street, Gloucester	April 21
*Additions, &c., to Union Workhouse	Kelso District Committee	The Clerk, 42, Church-street, Harwich	April 22
Pavilion, Blackpool		J. W. Bulcock, Architect, 26, Dean-street, South Shore, Blackpool	No date
Additions to House, near Fyling Hall, Whitby		H. G. Walker, Architect, Skinner-street, Whitby	do.
Theatre, Halifax		Jackson & Fox, Architects, Rawson-street, Halifax	do.
Large Drying Shed, Moreton-in-the-Marsh		J. Kennedy, Estates Office, Batsford	do.
Four Houses, Spring Grove Mount, Hunslet, Leeds		J. B. Leak, Architect, Waterloo-road, Hunslet, Leeds	do.
Hospital		Mitchell & Wilson, Architects, 18, Young-street, Edinburgh	do.
Villa, Plumtree, Nottingham		F. Parkin, Civil Engineer, Prudential Buildings, Nottingham	do.
Club and Institute, Rowlands Gill, Durham		T. H. Stafford, Architect, South Garesfield Colliery, Lintz Green	do.
*Detached Residences, Keswick-road, Putney, S.W.		Hugh Davies, Architect, 124, Holborn, E.C.	do.

PUBLIC APPOINTMENTS.

Nature of Appointment.	By whom Required.	Salary.	Application to be in
*Surveyor of Highways	Bourne R.D.C.	180*l.*	April 2
*Chief Engineer and Surveyor	County Borough of Northampton	600*l.* per annum	Mar. 16

Those marked with an asterisk (*) are advertised in this Number. Competitions, p. iv. Contracts, pp. iv. vi. viii. & x. Public Appointments, xviii.

PRICES CURRENT (*Continued*).

ENGLISH SHEET GLASS IN CRATES.

32 oz. thirds	5½d.	per ft. delivered.
,, fourths	5d.	,, ,,
Fluted sheet, 15 oz.	3d.	,, ,,
,, 21 ,,	4d.	,, ,,
½ Hartley's Rolled Plate	8d.	,, ,,
⅝ ,, ,, ,,	9½d.	,, ,,
¾ ,, ,, ,,	9½d.	,, ,,

OILS, &c.

		£	s.	d.
Raw Linseed Oil in pipes	per gallon	0	2	9
,, ,, ,, in barrels	,,	0	3	10
,, ,, ,, in drums	,,	0	3	0
Boiled ,, ,, in pipes	,,	0	2	11
,, ,, ,, in barrels	,,	0	3	0
,, ,, ,, in drums	,,	0	3	3
Turpentine, in barrels	,,	0	2	6
,, in drums	,,	0	2	8
Genuine Ground English White Lead	per ton	21	0	0
Red Lead, Dry	,,	20	10	0
Best Linseed Oil Putty	per cwt.	0	8	6
Stockholm Tar	per barrel	1	12	0

PRICES CURRENT (*Continued*).

VARNISHES, &c.

	Per gallon. £	s.	d.
Fine Elastic Copal Varnish for outside work	0	16	6
Best Elastic Copal Varnish for outside work	1	0	0
Best Elastic Carriage Varnish for outside work	0	16	0
Best Hard Oak Varnish for inside work	0	10	6
Best Extra Hard Church Oak Varnish for inside work	0	10	6
Fine Hard Copal Varnish for inside work	0	16	0
Best Hard Copal Varnish for inside work	1	0	0
Best Hard Carriage Varnish for inside work	0	16	0
Extra Pale Paper Varnish	0	12	0
Best Japan Gold Size	0	10	6
Best Black Japan	0	16	0
Oak and Mahogany Stain	0	9	0
Brunswick Black	0	8	6
Berlin Black	0	16	0
Knotting	0	10	0
Best French and Bruth Polish	0	10	0

TO CORRESPONDENTS.

NOTE.—The responsibility of signed articles, letters, and papers read at meetings rests, of course, with the authors.

We cannot undertake to return rejected communications.

Letters or communications (beyond mere news items) which have been duplicated for other journals are NOT DESIRED.

We are compelled to decline pointing out books and giving addresses.

Any commission to a contributor to write an article is given subject to the approval of the article, when written, by the Editor, who retains the right to reject it if unsatisfactory. The receipt by the author of a proof of an article in type does not necessarily imply its acceptance.

All communications regarding literary and artistic matters should be addressed to THE EDITOR; those relating to advertisements and other exclusively business matters should be addressed to THE PUBLISHER, and *not* to the Editor

TENDERS.

[Communications for insertion under this heading should be addressed to "The Editor," and must reach us *not later than 10 a.m. on Thursdays.* N.B.—We cannot publish Tenders unless authenticated either by the architect or the building-owner; and we cannot publish announcements of Tenders accepted unless the amount of the Tender is given, nor any list in which the lowest Tender is under 100*l.*, unless in some exceptional cases and for special reasons.]

* Denotes *accepted.* † Denotes *provisionally accepted.*

CROYDON.—For detached house, Chatsworth-road. Mr. A. Broad, architect, 22, George-street, Croydon. Quantities by the architect:—

S. Hart	£1,997	Pearson & Co	£1,875
S. Page	1,985	E. J. Saunders	1,800
Smith & Sons	1,960	E. J. Burnand	1,790
Akers & Co.	1,937	Hanscomb & Smith	1,744
W. Potter	1,919	Smith & Son*	1,728
D. W. Barker	1,899		

CROYDON.—For house, Beech House-road. Mr. A. Broad, architect, 22, George-street, Croydon:—

W. Potter	£859	D. W. Barker*	£842

CROYDON.—For house, Temple-road. Mr. A. Broad, architect, 22, George-street, Croydon:—

J. J. Cooper	£705	Pearson & Co.*	£600
W. Potter	659		

FENNY STRATFORD.—For the construction of sewage disposal works for the Urban District Council. Mr. J. Chadwick, engineer, Bletchley, and 53, St. Margaret's-mansions, Victoria-street, London, S.W.:—

Contract No. 1.

G. Bell	£10,803 9 9
W. Manders	9,364 7 2
J. Jackson	8,508 18 4
J. and T. Binns	8,459 11 1
York Green & Co.	8,390 11 3
Lock & Andrews	8,264 16 0
J. Cunliff	7,937 11 9
C. Carden	7,904 0 8
Bower Bros.	7,675 0 0
Grounds & Newton	7,541 10 7
Siddons & Freeman*	7,050 0 0
R. L. Tonge	6,300 0 0

Contract No. 2.

J. Jackson	£7,442 9 2
York, Green & Co.	7,384 13 9
G. Bell	7,264 7 0
Bower Bros.	7,161 0 0
J. & T. Binns	7,035 12 5
W. Manders	6,735 14 3
Lock & Andrews	6,622 13 8
Siddons & Freeman	6,490 0 0
J. Cunliff	6,349 16 8
R. L. Tonge	6,320 0 0
Grounds & Newton*	6,114 14 6

Contract No. 3.

J. & T. Binns	£4,090 18 3
J. Jackson	3,848 11 5
Hughes & Lancaster	3,792 9 0
J. Cunliff	3,699 12 9
Bower Bros.	3,475 0 0
Siddons & Freeman*	3,399 0 0

LONDON.—For erecting a block of dwellings on the Queen Catherine-court area, Dorset-street, Limehouse, E., for the Metropolitan Borough of Stepney. Mr. W. Jameson, Borough Engineer:—

Holliday & Greenwood	£6,377	Dove Brothers	£5,685
Wells, Martin, & Co., Ltd.	6,315	Todd & Newman	5,678
Chessum & Sons	5,909	H. N. Holloway	5,657
H. Lovatt	5,873	C. G. Hill	5,596
B. E. Nightingale	5,765	F. G. Minter	5,587
A. Porter	5,765	Patman & Fotheringham, Ltd.	5,553
Smith & Sons, Ltd.	5,729	Sabey & Son	5,527
Wilson Brothers & Lamplough	5,693	R. & E. Evans, 8, Lisford-street, Sumner-road, Peckham, S.E.*	5,408

LONDON.—For supplying and fixing a complete electric light installation at the Public Library, Bancroft-road, Mile End, E., for the Metropolitan Borough of Stepney. Mr. W. Jameson, Borough Engineer:—

Haines & Co.	£148 18 8	Christie & Co.	£96 0 0
Barlow Bros.	127 0 0	Ward Bros., 13, Beer-lane, E.C.*	93 1 0
Tamplin & Makocki	109 17 9		
The Lighting Corpn., Ltd.	107 10 0		

LONDON.—For supplying and delivering timber for year ending March, 1903, for the Metropolitan Borough of Stepney. Mr. W. Jameson, Borough Engineer:—

J. J. & S. W. Chalk, 2½ per cent. below schedule prices.
G. R. Gray, 10 per cent. above schedule prices.
Stebbings & Son, Adelina-grove, Mile End, E.* 3½ per cent. below schedule prices.
J. Foster & Son, 7½ per cent. above schedule prices.

LONDON. For supplying and delivering bricks, lime, and fire clay, for year ending March, 1903, for the Metropolitan Borough of Stepney. Mr. M. W. Jameson, Borough Engineer:—

	Bricks. Staff.	Flettons.	Stocks.	Fire. Sq.	Fire. Arch.	Lime. Grey Stone.	Lime. Chalk	Per Ton Fire Clay.
	—	—	—					
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	s. d.	s. d.	£ s. d.
Assoc. P. C. Manufacturers, Ltd.	—	—	2 2 0	—	—	11 6	11 6	—
Byford & Sons, Moody Wharf, Poplar, E.*	2 14 0	1 9 0	2 0 0	3 17 6	3 17 6	11 3	11 3	0 19 6
Erith, Lisney, & Co.	3 0 0 (9 in. by 4½ in. by 2¾ in.)	1 15 0	2 0 0	4 10 0	4 10 0	12 6	12 6	1 10 0
	3 5 0 (9 in. by 4½ in. by 3 in.)							
J. Gibbs, Jun.	3 9 0	1 15 0	2 1 0	3 19 0	4 12 6	12 6	12 6	1 11 6
Harper & Moores, Ltd.	—	—	—	4 3 6	4 3 6	—	—	1 4 0
W. T. Lamb	—	—	—	—	—	10 0	10 0	—
Passmore & Co.	3 2 6	1 11 3	1 17 6	3 10 0	3 15 0	11 0	11 0	1 0 9
Rosher & Co.	4 15 0	1 15 0	2 0 0	4 15 0	5 0 0	12 00	12 0	1 10 0
Sankey & Son	2 19 0	1 12 0	1 18 0	3 19 0	—	—	—	—
				3 14 0	3 19 6	11 6	11 6	1 3 9
Tibbington Brick Works, Ltd.	—	—	—	3 15 0	3 15 0	—	—	1 4 9
Wakeley Bros. & Co.	—	1 12 0	1 18 0	4 5 0	—	10 10	10 10	1 5 0
Bray & Co.	—	1 14 0	—	—	—	—	—	—
H. Goodman	3 7 0	1 12 0	1 19 0	4 5 0	4 5 0	11 5	11 9	1 5 0

LONDON.—For granite paving for the Metropolitan Borough of Stepney. Mr. M. W. Jameson, Borough Engineer:—

	G. J. Anderson.	J. C. Base.	Wm. Gibbs, Ltd.	W. Griffiths, & Co., Ltd.*	W. Moon.
TURNER-STREET.	s. d.	s. d.	s. d.	s. d.	£ s. d.
Excavate, screen, and cart away, at per yard cube	4 6	5 0	4 6	4 6	0 11 1
Concrete (screened granite ballast and Portland cement) at per yard cubic	11 0	12 6	12 0	11 0	1 2 0
Concrete (ballast and Portland cement) at per yard cube	13 9	15 0	14 0	14 0	1 5 6
Pave with old granite sets, at per yard super	2 6	2 9	3 0	2 6	0 2 9
Square, dress, and ditto, at per yard super	4 5	4 7	5 0	4 5	0 4 8
Make, square, dress, and ditto, at per yard super	4 11	5 2	5 6	4 11	0 5 10
JUBILEE-STREET.					
Excavate, screen and cart away, at per yard cube	4 6	5 0	4 6	4 6	0 11 1
Concrete (screened granite ballast, and Portland cement) at per yard cube	11 0	12 6	12 0	11 0	1 2 0
Concrete (ballast and Portland cement) at per yard cube	13 9	15 0	14 0	14 0	1 5 6
Pave with old granite sets, at per yard super	2 6	2 9	3 0	2 6	0 2 9
Square, dress, and ditto, at per yard super	4 5	4 7	5 0	4 5	0 4 8
Make, square, dress, and ditto, at per yard super	4 11	5 2	5 6	4 11	0 5 10

LONDON.—For supplying and delivering Portland cement for year ending March, 1903, for the Metropolitan Borough of Stepney. Mr. W. Jameson, Borough Engineer:—

	Duke Shore Wharf.	Riga Wharf.	Railway Station.
	£ s. d.	£ s. d.	£ s. d.
Assoc. P.C. Manufacturers, Ltd.	1 6 11 ..	1 7 8 ..	1 9 3
Barton & Co.	1 6 6 ..	1 8 6 ..	—
Byford & Sons, Moody Wharf, Poplar, E.‡	1 5 3 ..	1 6 2 ..	1 8 3
Coles, Shadbolt, & Co.	1 8 7 ..	1 8 0 ..	1 11 0
Erith, Lisney, & Co.	1 10 0 ..	1 10 9 ..	1 11 6
W. T. Lamb	— ..	— ..	1 9 0 van load.
Passmore & Co.	1 7 6 ..	1 8 3 ..	1 9 0
Rosher & Co.	1 8 5 ..	1 10 2 ..	1 12 6
Sankey & Son	1 6 3 ..	1 6 9 ..	—
Wakeley Bros.	1 5 4 ..	— ..	—
Wm. Gibbs, Ltd.	1 7 0 ..	— ..	—
Goodman	1 7 9 ..	1 8 9 ..	1 9 0

‡ Anywhere in borough, £1 8s. 11d.

LONDON.—For supplying and delivering drainage materials for year ending March, 1903, for the Metropolitan Borough of Stepney. Mr. W. Jameson, Borough Engineer:—

	Percentage below schedule prices.	Discount.
Albion Clay Co., Ltd.	40 per cent.	2½ per cent.
Byford & Sons	40 per cent.	2½ per cent.
Doulton & Co.	32½ per cent. for best London stoneware. 40 per cent. for best Staffordshire stoneware	2½ per cent. off monthly payments
Erith, Lisney, & Co., 459, Old Ford-road, Bow, E.*	45 per cent.	2½ per cent.
Passmore & Co.	42½ per cent.	—
Sankey & Son	40 per cent.	2½ per cent.
Stiff & Son	40 per cent.	2½ per cent.
Sutton & Co.	40 per cent.	2½ per cent.
J. Gibbs, jun.	30 per cent.	—
Cliff & Son	—	Informal

LONDON.—For supplying and delivering cast iron gully grates, &c., for year ending March, 1903, for the Metropolitan Borough of Stepney. Mr. W. Jameson, Borough Engineer:—

	Per cent.
Carlton Iron Foundry, 25, Leatherdale-st., Mile End, E.*	22½‡
C. & W. Gill	5 ‡
W. Harris	5 ‡
Northamptonshire Direct Castings Co.	10 §
Pontifex & Co.	2½‡
Warner, Ltd.	15 ‡
E. & F. Wright	10½‡

‡ Below schedule. § Above schedule.

LONDON.—For supplying and delivering colours, varnishes, &c., for the year ending March, 1903, for the Borough of Stepney. Mr. W. Jameson, Borough Engineer:—

E. R. Goodrich	25	per cent. below schedule.
Haines & Co.	17½	,, ,,
Middleton Bros.	22½	,, ,,
Miles & Ginn, 43, Mile End-road, E.*	25	,, ,,
R. D. Stewart	25	,, ,,

LONDON.—For asphalte paving at Bancroft-road, Old Church-road, and any other new asphalte paving or reinstating the Council may order before Lady Day, 1903, for the Metropolitan Borough of Stepney. Mr. W. Jameson, Borough Engineer:—

	French Asphalte Co., Ltd.*	Limmer Asphalte Co.	Val de Travers Co.
	s. d.	s. d.	£ s. d.
New Paving.		At per load.	
Take up pitchings, cart to depot	2 6	3 0	2 6
		At per yard cube.	
Break up macadam, screen and cart earth to shoot	6 0	7 0	6 6
Excavate ground and cart to shoot	6 0	7 0	6 6
Concrete (screened granite, ballast, and Portland cement) brought up to receive paving	15 0	18 0	15 6
Concrete (ballast and Portland cement) and as No. 4	18 0	18 0	18 0
		At per yard super.	
Compressed asphalte 2 in. thick	9 10	10 6	10 0
Ditto 1½ ,,	7 9	8 6	8 0
Ditto 1 ,,	5 0	5 9	5 6
Mastic asphalte 1 ,,	5 0	6 0	5 6
Ditto ¾ ,,	4 6	5 0	4 9
Ditto ½ ,,	4 0	4 0	4 0
Repairing Existing Paving.		At per yard super.	
Break up asphalte and cart away	—	0 3	0 1
		At per yard cube.	
Ditto, and concrete thereunder, and ditto	6 0	7 0	6 6
Excavate ground and cart to shoot	6 0	7 0	6 6
Concrete (screened granite, ballast and Portland cement) brought up to receive paving	18 0	18 0	18 0
Concrete (ballast and Portland cement) and as No. 25	18 0	18 0	18 0
		At per yard super.	
Compressed asphalte 2 in. thick	12 0	13 0	12 6
Ditto 1½ ,,	10 0	10 6	10 6
Ditto 1 ,,	6 9	7 0	6 9
Mastic asphalte 1 ,,	6 0	6 9	6 0
Ditto ¾ ,,	5 3	6 0	5 6
Ditto ½ ,,	4 9	5 6	5 0

[See also next page.

LONDON.—For alterations at Holloway Police Station. Mr. Dixon Butler, architect :—

Credit. £		£
10	C. Ansell	2,929
.....	Grover & Son	3,120
.....	Clark & Bracey	3,198
20	J. Parker	3,200
10	Lathey Bros.	3,239
.....	F. & H. F. Higgs ..	3,242
.....	Holloway Bros.	3,246
.....	Lascelles & Co.	3,269
10	Higgs & Hill	3,284
100	Allen & Son	3,296
.....	Willmott & Sons	3,491

LONDON.—For new parsonage house, Short-street, New-cut, Southwark, for the Rev. G. Robinson Lees. Mr. Ernest E. Fetch, architect, 20, John-street, Adelphi, W.C. Quantities by Mr. J. Jellis :—

H. S. Lee	£1,804 8 6	Burman & Sons	£1,611 0 0
C. Cole	1,792 11 10	Loewin Bros. & Co.....	1,603 0 0
Clarke & Manooch ..	1,753 0 0	Jerrard & Sons	1,324 0 0
Gregar & Son	1,685 0 0	J. W. Jerram	1,444 0 0
Godson & Sons	1,685 0 0		
Adamson & Sons	1,653 0 0		

LONDON.—For the supply of 1,000,000 stoneware ducts required for the electrical cables in connexion with the reconstruction, for electrical traction, of the London County Council Tramways :—

	Rate per 1,000 ducts. £ s. d.	Amount of tender. £ s. d.
Hotes, Tugby, & Co., Ltd. ..	41 13 2	41,666 13 4
Sharp, Jones, & Co.....	37 10 0	37,500 0 0
Hamblet's Blue Brick Co., Ltd.	36 9 2	36,458 0 0
Albion Clay Co., Ltd.	35 0 0	35,000 0 0
Leeds Fireclay Co., Ltd. (W. Ingham & Sons, Ltd., branch).....	32 0 0	32,000 0 0
Oates & Green, Ltd.	32 0 0	32,000 0 0
Place & Sons, Ltd.	28 2 6	28,125 0 0
Geo. Jennings, Ltd.....	25 0 0	25,000 0 0
Leeds Fireclay Co., Ltd. (E. Brooke & Sons' branch)	25 0 0	25,000 0 0
Stiff & Sons.....	21 0 0	21,000 0 0
Ensor & Co., Ltd.....	20 0 0	20,000 0 0
Ashgrove Brick, Tile, and Fireclay Co.	20 0 0	20,000 0 0
Boothorpe Pipe Co.....	19 0 0	19,000 0 0
Wragg & Sons, Ltd.....	18 7 6	18,375 0 0
Sutton & Co.	18 7 6	18,375 0 0
H. R. Mansfield, Burton-on-Trent*	11 5 0	18,250 0 0
Skey & Co., Ltd., Tamworth*	18 5 0	18,250 0 0
Stanley Bros., Ltd., Nuneaton*	18 5 0	9,125 0 0

For 500,000 only.

[It was agreed at the meeting of the L.C.C. on Tuesday that the respective tenders (*a*) of Messrs. G. Skey & Co., Ltd., for the supply, in connexion with the reconstruction of the London County Council Tramways, of 500,000 stoneware ducts for the sum of 9,125*l.*, and (*b* and *c*) of Messrs. Stanley Bros., Ltd., and Mr. H. R. Mansfield, each for the supply of 250,000 ducts for the sum of 4,562*l.* 10*s.*, be accepted.]

LONDON.—For repainting Barking-road bridge, for he London County Council :—

Vigor & Co.....	£856 3 9	W. Dudley ..	£584 19 10½
A. H. Inns	629 19 4	E. Proctor* ..	486 11 6

LONDON.—For the erection of five shops with dwelling-house over, and conversion of four existing houses and shops, at Grove-road, Mile End, for Messrs. Cohen & Berkovsky. Messrs. H. S. and C. A. Legg, architects, 13, Grafton-street, Mile End. Quantities by Mr. W. Hawker :—

F. & F. J. Wood.....	£4,350 0 0	Kendall	£3,924 0 0
Jackson.....	4,010 10 9	Yates	3,320 0 0
J. & H. Cocks	3,961 0 0	Barker	3,175 0 0

LONDON.—For the supply, delivery, and erection of a ten-ton overhead traveller at the pumping station which is at present in course of erection at Lots-road, Chelsea, for the London County Council :—

Broadbent & Sons, Ltd.	£650	Henderson & Co.*	£425
Whitley & Co.	504	Jessop & Appleby Bros., Ltd.	420
Booth & Bros., Ltd. ..	495	Carrick & Ritchie	395
Carrick & Sons, Ltd...	494	Hitchen & Son	390
Larmuth & Co.	465		
Ransomes & Rapier, Ltd.	462		

SAXHAM.—For addition to Saxham Hall, Suffolk, for Mr. C. Morbey. Mr. Jno. Flatman, architect, Newmarket :—

F. Tooke	£4,300	H. Plummer	£2,345
Shillitoe & Son	2,685	Wm. Saint	2,331
A. J. Bateman	2,600	H. J. Linzell*	2,129
J. G. Cowell.....	2,420		

WOKING.—For the erection of three shops, Goldsworth-road, Woking, for Mr. S. C. Knight. Messrs. W. G. Jones & Clinton, architects and surveyors, 3, Broadway, Woking, Surrey :—

F. Aylott	£3,600	Ingram & Son	£3,100
Drowley & Co.	3,539	Harris & Son	3,025
W. R. Roake	3,475	Gale & Son	2,996
F. Kemp	3,439	G. Allard, Woking* .	2,750

TERMS OF SUBSCRIPTION.

"THE BUILDER" (Published Weekly) is supplied DIRECT from the Office to residents in any part of the United Kingdom, at the rate of 19s. per annum (52 numbers) PREPAID. To all parts of Europe, America, Australia, New Zealand, India, China, Ceylon, &c., 26s. per annum. Remittances (payable to DOUGLAS FOURDRINIER) should be addressed to the publisher of "THE BUILDER," Catherine-street, W.C.

SUBSCRIBERS in LONDON and the SUBURBS, by prepaying at the Publishing Office, 19s. per annum (52 numbers) or 4s. 9d. per quarter (13 numbers), can ensure receiving "The Builder," by *Friday Morning's Post.*

J. J. ETRIDGE, Jr.

SLATE MERCHANT,

SLATER and TILER.

Penrhyn - Bangor,
Oakeley - Portmadoc,

And every other description of Slates, except American, Ready for immediate delivery to any Railway Station.

RED SANDFACED NIBBED ROOFING TILES ALWAYS IN STOCK.

Applications for Prices, &c., to
BETHNAL GREEN SLATE WORKS,
BETHNAL GREEN, LONDON, E.

THE BATH STONE FIRMS, Ltd.

BATH.

FOR ALL THE PROVED KINDS OF

BATH STONE.

FLUATE, for Hardening, Waterproofing, and Preserving Building Materials.

HAM HILL STONE.
DOULTING STONE.

The Ham Hill and Doulting Stone Co.
(Incorporating the Ham Hill Stone Co. and C. Trask & Son The Doulting Stone Co.)

Chief Office :—Norton, Stoke-under-Ham, Somerset.

London Agent :—Mr. E. A. Williams.
16, Craven-street, Strand.

Asphalte.—The Seyssel and Metallic Lava Asphalte Company (Mr. H. Glenn), Office, 42, Poultry, E.C.—The best and cheapest materials for damp courses, railway arches, warehouse floors, flat roofs, stables, cow-sheds and milk-rooms, granaries, tun-rooms, and terraces. Asphalte Contractors to the Forth Bridge Co.

SPRAGUE & CO., Ltd.,

PROCESS BLOCK MAKERS

of all descriptions.

4 & 5, East Harding-street, Fetter-lane, E.C.

QUANTITIES, &c., LITHOGRAPHED accurately and with despatch. [Telephone No. 611 Westminster.

MITCHIM & SON { 5, PRINCES STREET, 97, GEORGE ST. WESTMINSTER

"QUANTITY SURVEYORS' DIARY AND TABLES, For 1902, price 6d. post 7d. In leather 1/- Post 1/1.

JOINERY

Of every description and in any kind of Wood.

CHAS. E. ORFEUR,

COLNE BANK WORKS,
COLCHESTER.

Telephone: 0196. Telegrams: "Orfeur, Colchester."

ASPHALTE

For Horizontal & Vertical Damp Courses.
For Flat Roofs, Basements, & other Floors.

Special attention is given to the above by

THE

French Asphalte Co.

Contractors to
H.M. Office of Works, The School Board for London, &c.

For estimates, quotations, and all information, apply at the Offices of the Company,

5, LAURENCE POUNTNEY HILL,
CANNON STREET, E.C.

B. NOWELL & CO.

STONE MERCHANTS & CONTRACTORS.

Chief Office.—*Warwick Road, KENSINGTON.*

Norway, Guernsey, and Leicestershire Granite, Kerb, Pitching, and Yorkshire Stone.

ESTIMATES GIVEN FOR EVERY DESCRIPTION OF ROAD MAKING.

TWELVE GOLD AND SILVER MEDALS AWARDED.

COPPER AND ZINC ROOFING.

F. BRABY & CO.

LONDON.	LIVERPOOL.	GLASGOW.	BRISTOL.
353 to 364, Euston-rd., N.W.	6 & 8, Hatton Garden.	47 & 49, St. Enoch-square.	Ashton Gate Works, Coronation-rd

VIEILLE MONTAGNE SOLE MANUFACTURING AGENTS.

NO SOLDER. NO EXTERNAL FASTENINGS.

Particulars on Application. Chief Offices: Fitzroy Works, EUSTON ROAD, LONDON, N.W.